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Title A CONCEPTUAL PARADIGM FOR THE EVALUATION OF
RECREATION RESOURCES

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One of the most serious problems confronting modern America
is the efficient and rational utilization of the recreation resource base,
not only in terms of present demands and needs, but future as well.
The resource manager, in the past, has had few guidelines from
which to determine the type and extent of development desired. As
a result, large tracts of ineffective acreages have been provided.
There is a notable and serious lack of a developmental schemata that
attempts to relate contributory factors in such a manner as to pre-
sent the resource manager with a more crystallized concept of the
type of development desired, its effect upon the physical landscape,
and its economic rationale.

The purpose of this study, therefore, is to define those vari-
bles that should be considered in any proposed recreation develop-
ment. This will be carried out in two sections. First, individual
dimensions of consideration will be examined to depict their influence
on recreation resource development. Secondly, a conceptual paradigm will be constructed, presenting a framework of variables to be considered by the resource manager in decision making.

The need for such a framework is two-fold. First, it will allow the more efficient development of the recreation resource base, thereby reducing the amount of ineffective acreage and increasing user satisfaction. Secondly, it will allow more equitable comparisons to be made between recreation development and other resource uses, such as timber and mining.

As the country's population continues to grow and the tempo of life increase, there may be expected a growing desire on the part of people to "get away from it all." The rapid encroachment of urban and industrial development, however, is alienating much of the recreation resource base forever. Thus, it is most essential, indeed imperative, that man more carefully analyze and order the development of his and his progeny's environment.
A CONCEPTUAL PARADIGM FOR THE EVALUATION OF RECREATION RESOURCES

by

GEORGE HENRY STANKEY

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Dean of Graduate School

Date thesis is presented ___July 19, 1966____

Typed by Gwendolyn Hansen
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Finally, to my wife Jackie, I wish to express my appreciation for her aid in proofreading and typing. Without her encouragement, this thesis might not have been completed.
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A CONCEPTUAL PARADIGM FOR THE EVALUATION OF RECREATION RESOURCES

CHAPTER I

INTRODUCTION

Recreation resource development in the United States today represents a growing area of consideration to the resource manager. The demand for adequate areas and facilities is increasing rapidly and may be expected to expand greatly in the future. In large, the raison d'être of this growth may be attributed to significant changes in socioeconomic factors such as: (1) population changes, particularly growth in total population, but also changing age distribution and increased urbanization; (2) increased discretionary income; (3) improved travel facilities and intensified travel; and (4) additional leisure time, a phenomenon comprised of reduced work weeks, time saving devices in the home, and a growth in the number of paid holidays and vacations.

The total effect of these factors has been a hitherto unknown level of demand brought upon the recreation resource base. Policy making decisions initiated at various levels of concern have generally approached the question of developing recreation resources from one or a combination of the following four methods: (1) development based upon the economic contribution of a recreation area to the
economy; (2) development in relation to the social stratification of a particular region and its consequent demand for recreation resource types; (3) development based upon the physical qualities of the proposed recreation site; and (4) development based upon desirable standards of recreation acreage.

Statement of Problem

Measures of outdoor recreation demand, couched in economic terms and used as the rationale for the development of outdoor areas and facilities have generally not been wholly acceptable to planners, resource managers, or the public. Part of this reticence can be traced directly to the claim that the primary benefits of the recreation experience are intangible; thus are above and beyond the economist's demand curve.

This argument has only limited merit. The public has the right to demand that realistic values be placed on the use of resources for recreation and that all plans for development consider these values (79, p. 577). There is a serious need for a more explicit evaluation of the economic benefits and costs of recreation. Such a formula would allow a more positive approach to questions not only of quantities of resources, but also kinds of resources, of locations, and of the timing of acquisition and development (48, p. 387).
The economic approach, however, does not represent a panacea to the resource manager. Planning calls for the integration and preservation of diversity as major goals. It is necessary to recognize changing tastes, such as the shift in recent years toward camping as opposed to hotel use (57, p. 31). Other studies, particularly those of Reid, point out that a serious dichotomy may exist between recreational opportunities desired and the facilities and activities provided. This fosters less than optimal development and use of recreation resources for the general public welfare in three ways: (1) an inadequate supply of desired opportunities; (2) the provision of unneeded or undesired opportunities; and (3) the restriction of use with consequent dissatisfaction and the eventual loss of public identification (support) for recreational programs (73, p. 6).

Similarly, developments that are conceived in a vacuum apart from considerations of the site per se represent inefficient and, ecologically speaking, alien uses of the particular plant and animal associations that exist within the area.

In order to manage recreation resources for maximum societal returns, it is necessary to meld user activity, patterns, preferences, and desires with a knowledge of natural resource adaptabilities and capabilities. This knowledge, combined with an accurate estimation of the economic benefits of a particular development would equip the resource manager with an integrated and comprehensive accumulation
of data permitting the most effective utilization of recreation resource base.

Thus, as the hypothesis of this paper, the construction of a conceptual paradigm, representing an integrated and synthesized analysis of contributory factors, is recognized as a necessity for optimum resource management. Individual elements of consideration have been pursued at length; attempts at collating these variables are limited. It is the intent of this thesis to examine the possibility of providing a more useful framework of criteria for consideration by the resource manager in policy formation and development decisions.

Procedure

The method of procedure has been the critical examination of selected methods of measuring and evaluating recreation demand for the purpose of more adequate development guidelines. Considerable reading was undertaken, not only with those articles dealing specifically with outdoor recreation, but also in those that approached the total problem of resource management and the man-land relationship. Interviews were conducted with individuals concerned with outdoor recreation--park and recreation administrators, planners, and academicians. Their comments and suggestions yielded some of the more current thinking in the field.
Personal interest in recreation resource development is of long standing. During the summer of 1965, while employed at the Cowlitz Regional Planning Commission in Kelso, Washington, the need for comprehensive and rational land use planning brought to attention the fact that no synoptic approach had been satisfactorily researched or constructed. Thus arose the decision to attempt the collation of data and the formulation of a conceptual model in line with the basic goal of geography—a more full understanding of the vast overriding system on the earth's surface comprised by man and the natural environment (63, p. 9).

**Thesis Organization**

Following the introduction, chapter two provides a brief examination of those factors that are contributory to the growing demand for outdoor recreation in the United States today. Also, the terminology of the research topic is delineated and defined. Chapter three is introductory in nature, with an overview of the history of recreation resource development, extending from its inception on the European continent through its present status in modern urban America, utilizing a montage descriptive presentation. Contributions from various levels of government in addition to the private sector are examined.

The core of the thesis is undertaken in chapter four with the
critical examination of various methods of planning for development.

Four clusters of concern may be noted; economic, sociological, physical (site planning), and acreage standards. These are examined in light of five variables: (1) extent of present use; (2) applicability in resource management; (3) soundness in the fundamentals of the respective discipline; (4) flexibility in context of time; and (5) contribution to the formulation of an integrated model. Chapter five will then present a proposed conceptual paradigm, based upon the principles of interrelated causation as outlined in the preceding chapter. Conclusions and summary statements in chapter six will complete the presentation.
CHAPTER II

DIMENSIONS OF DEMAND

The determination of a fundamental rationale for planning the development of outdoor recreation resources is derived primarily in the context of the traditional relationship of man to the outdoors. An expression of this intimate link has been aptly revealed in statements by Conrad Gesner, a 16th century Swiss physician-botanist-geologist. He noted:

... as long as it may please God to grant me life, I will ascend several mountains, or at least one, every year at the season when the flowers are in their glory, partly for the sake of examining them, and partly for the sake of good bodily exercise and of mental delight (32, p. 42).

Despite a span of over 400 years, Gesner’s exultations remain of significance in today’s society, a fact manifested by the rapidly rising rates of outdoor recreation participation. The provision of areas to meet the varying demands and preferences of recreationists has long been of concern to the nation, but the problem in recent years has taken on new and diverse dimensions. In fact, Wolfe has noted that it is now correct to speak of the problem of outdoor recreation, a problem occupying a central position in our civilization (106, p. 203). Whereas in 1910, there was a problem of educating people to use the national parks, in 1960 the problem
is one of knowing how to manage the 60 million or more visitors (41, p. 26).

There are numerous inherent complexities involved in the allocation of recreation resource development. Unlike other aspects of the resource complex, outdoor recreation resources lack the basic characteristics of commodity production and profit management. The value of the development of outdoor recreation resources transcends usual quantitative determinations, for many of the rewards and satisfactions associated and derived from participation are traced to social and personal values; values that are most difficult to delineate in material and quantitative terms (72, p. 180). Nevertheless, attempts at more adequate and satisfactory methods of anticipating demand and developing recreation resources are desirable. Man's needs for recreation are growing at the same time that the recreational landscape is deteriorating and diminishing (36, p. 911). The time-honored doctrine of the "greatest good for the greatest number" needs a careful and objective examination (2, p. 192). In the following discussion, various methods and standards will be critically evaluated in terms of their contribution to a more satisfactory conceptual model of the components and variables for consideration in recreation resource development. Through the evolvement of more adequate land use designations, it will be possible to halt the genesis of heterogeneous and incompatible uses.
of the landscape and to foster the creation of integrated patterns of development, designed for the maximum degree of efficient utilization of the recreation resource base.

**Definition and Delineation of Terms**

In an attempt to establish the dimensions of investigation in recreation resource development, it is necessary to recognize two major premises. First, there appears to be no general agreement as to what constitutes recreational resources or recreational land. This relates directly to the second premise; there is apparent agreement that the nature of the recreation resource is determined by the use to which the resource will be put (82, p. 86). This concurs with the statement by Lucas that all resources are defined by perception (52, p. 373). Thus, in the context of this preliminary delineation, we are able to establish, for the purpose of this thesis, a working set of definition.

**Outdoor Recreation**

Various interpretations as to the nature of outdoor recreation have been advanced. In its broadest sense, recreation refers to the interests and activities that occupy some of the leisure time of people. It is entered into voluntarily for social and physical enjoyment and relaxation, to educate and develop skills, to inspire
creativity, and to cultivate aesthetic and cultural sensitivity (4, p. 21). Therefore, outdoor recreation involves those activities participated in in an outdoor setting merely for the enjoyment it affords, either in a physical, intellectual, aesthetic, or emotional manner, or in a combination of these variables.

To further define the term, the way outdoor recreation time is spent is highly individualistic. Involvement in outdoor recreation is dynamic in nature, varying not only with specific individuals, but also with time and place. The extent to which outdoor recreation activities will be pursued by an individual is largely a function of the degree to which the activities provide outlets for personal interests not attainable in one's daily routine: mental improvement; cultural growth; or social adjustment (103, p. 2). Taylor notes that the:

product of recreation is direct human satisfaction which, in any of its facets, is related directly to the experience gained without the intervention of an intermediate product or process (82, p. 84).

Thus, in any generalization concerning the definition of outdoor recreation, two constants must be recognized. First, recreation is "pleasurable" in all the ramifications of the word. Secondly, maximum release from routine accrues to the individual only if he engages in an activity voluntarily. Brightbill and Meyer recognize this by defining recreation "as an activity voluntarily engaged in
during leisure and primarily motivated by the satisfaction or pleasure derived therefrom" (7, p. 50).

**Leisure**

Often the terms "outdoor recreation" and "leisure" are used interchangeably and synonymously. Clawson defines leisure as time not spent on the job or in the basic elements of personal living (19, p. 2). In the initial definition of outdoor recreation, it can be noted that it occupies some of the leisure time of people. It is estimated that only about three to four percent of all leisure time is used for outdoor recreation activity (19, p. 7). The Outdoor Recreation Resources Review Commission (ORRRC), however, reports that this figure is approximately 20 percent. The discrepancy between the two figures is most certainly related to differences in the perceptual definition of the term.

**Recreation Resource Development**

Recreation resource development involves the development of proposals, based upon the existing character of the land and the nature of its occupance, in relation to the maximum long-range use of the resources in order to provide needed recreation opportunities for all within an accepted social and economic framework (38, p. 11; 4, p. 21). Firey notes that the entire process of resource
development involves the conversion of inert natural processes into potential social capital (29, p. 136). This would involve policy decisions and administrative actions as well as proposals for implementation.

An outdoor recreation system has four components to be evaluated and analyzed by the planner. These include: (1) demand for recreation activities; (2) preference for varying types of activities; (3) the location of the recreation resource; and (4) the use of the resource (94, p. 32). Through the careful examination of these factors, the allocation and distribution of recreational development can be more efficiently undertaken.

**Outdoor Recreation Resource Types**

As will be discussed in chapter four, there exists a relationship between recreational activity and recreational resource type. This allows the resource manager to establish broad categories for more ready understanding and comparison.

Various terminology and definitions have been advanced and it is of value to enumerate and define them at this time.

Clawson has defined recreation resource types in the context of their use. Those areas subject to intensive use are designated user-oriented and are characterized by only modest natural resource endowment. City parks are the classic example (19, p. 13). Taylor
has followed a similar line of reasoning, simple referring to such areas as "people intensive" (82, p. 86).

Areas within two hour's travel distance or approximately 100 miles are referred to as intermediate. Location of these sites may be based either upon the activities available or upon the natural qualities of the area. State parks, reservoir development, and winter sports areas normally are included in this category (82, p. 84; 19, p. 15).

When the primary emphasis is upon the natural or human qualities of the site, the area is termed resource-based. The factors of available activities and location play an insignificant role. Examples include national parks, historic sites, and wilderness areas (19, p. 15-16). Again, Taylor has coined a similar term, referring to this category as "people extensive" (82, p. 86).

Anderson has identified four resource types based upon the physical qualities of the site per se. He supplies his own definition of the first category, natural reservations, as:

the natural landscape held in a dynamic balance between plant and animal communities and natural forces (earth quakes, floods, fires, changing climates) without the dominant interference, intrusion, or control of civilized man, or his inventions (4, p. 38).

Comparable to Clawson's resource-based areas, this category would include wilderness and wild lands.

Those sites dedicated to public enjoyment and those where
man is recognized as the ecological dominant are designated as natural developed areas. There is a certain flexibility to these areas, as man can manipulate and design the environment to satisfy his desires. The national, state, county, and local parks are included in this type. In addition, a growing number of commercial and industrial enterprises are providing public parks at this level (4, p. 39).

Anderson's third category, man-developed areas, is highly activity oriented, again closely correlating with Clawson's user-oriented designation. Development may be either private or public and is generally in proximity to a population center. In most cases, the natural setting is less important than the services that are provided (4, p. 39). Open space is an additional class identified by Anderson but generally only alluded to in other sources. Recreation in these areas is of secondary benefit since the open space recreation resource properly includes both public and private holdings, national forests, flood control reservoirs, and agricultural fields (4, p. 39).

**Factors in the Increasing Demand for Outdoor Recreation**

The increasing demand for outdoor recreation in America today is a direct function of the generally increasing level of living. Certain components, however, play a disproportionate role in
influencing participation in various activities. Thus, the identification of those variables that contribute significantly to increased demand is a prerequisite to the rational and orderly development of the recreation resource base.

Only in recent decades has there appeared a growing concern on the part of public agencies to formulate concepts enumerating and distinguishing the role of such factors as income, age distribution, increased leisure time, and mobility. Attempts at projecting demand rates without an adequate knowledge of the influence of these factors have resulted in highly inaccurate conclusions. Two programs stand as representative of an attempt. In 1956 the National Park Service initiated "Mission 66," designed to meet the use requirements of an estimated 80 million visitors in 1966. By 1961, only halfway through the project, attendance had already exceeded 79 million. Even more inaccurate was the United States Forest Service's "Operation Outdoors." Launched in 1957, it was to provide adequate development to meet the requirements of an estimated 66 million visits in 1962. In 1961, visitation to the national forests exceeded 102 million, with an estimated 115 million visitors expected in 1962 (73, p. 3). The 1961 figure represents an error on the magnitude of nearly 55 percent.

The ORRRC Report, Outdoor Recreation for America, noted that public areas in 1960 supported over 500 million visits. By the
year 2000, this demand is expected to triple (94, p. 24, 53). In a cogent analysis of demand, we therefore need to examine the contributing factors.

**Changing Life Patterns**

The 20th century has witnessed a number of basic changes in the fundamental life patterns of people. In 1900, the average male child had a life expectancy of 48 years; in 1950, it had reached 65 1/2 years, and it is projected to reach approximately 75 by the turn of the century (19, p. 2-3). This has been a response not only to a greater proportion of newly born babies surviving, but also to the increased ages to which our senior citizens are living.

As a result of the longer life expectancy, the years of productive development have lengthened as have the years spent in retirement. Women are entering the labor force at an early age, working for a few years, leaving for a period to bear children, then re-entering at approximately 45. Finally, the number and proportion of persons 65 years or older has risen greatly in the past; in the future, the number of these persons will continue to rise, but the proportion will decline as birth rates continue high (19, p. 3). As a result of these data, the ORRRC reports have noted that of all factors, age has the sharpest influence on recreation participation (94, p. 27).
Spatial Distribution of Population and Facilities

The discrepancy of population distribution in relation to recreational areas is one of the foremost problems confronting the recreation resource manager. When space is taken into account, it becomes obvious that the operationally crucial factor is spatial imbalance, which involves the movement of people from the places where they live to the places where the recreational facilities are (106, p. 216). This unequal relationship is further accentuated by the growing degree of urbanization (see Table 1).

Table 1. Relation of Population, Urbanization, and Recreation Land

<table>
<thead>
<tr>
<th>Area</th>
<th>Percent of Population</th>
<th>Percent Urban</th>
<th>Percent of Total Recreational Land</th>
</tr>
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<tbody>
<tr>
<td>Northeast</td>
<td>25</td>
<td>80</td>
<td>4</td>
</tr>
<tr>
<td>South</td>
<td>30</td>
<td>59</td>
<td>12</td>
</tr>
<tr>
<td>North Central</td>
<td>30</td>
<td>69</td>
<td>12</td>
</tr>
<tr>
<td>West</td>
<td>15</td>
<td>78</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: (94, p. 51; 35, p. 53).

* Northeast includes 9 states, South 16, North Central 12, and West 11.

Underlying all projections of the Outdoor Recreation Resources
Review Commission are two assumptions: (1) there will be more Americans; and (2) they will be much more affluent (106, p. 211). The second point will be discussed later in this chapter. Population growth has become an axiom of consideration in all projections today. From a population of 106 million in 1920, the total had grown to 179 million in 1960. Projections from the ORRRC studies indicate a population of 230 million by 1976 and 350 million at the turn of the century (94, p. 30; 19, p. 34). Concomitant with total population growth is the increase in urban population. In 1920, the Census recorded the first time urban population exceeded rural, with a figure of 51 percent. By 1960, this percentage had increased to 70 (35, p. 50). Furthermore, approximately two-thirds of the urban population currently resides in Standard Metropolitan Statistical Areas (SMSA), which account for less than 10 percent of the land area of the country. By 2000, this figure is expected to increase to 73 percent (94, p. 22).

The impact of this increased population is obvious. Pressures will continue to rise on user-oriented areas and will begin to be felt in those areas normally considered beyond the range of

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1 Urban population, as defined by the Bureau of the Census, includes incorporated areas of 2500 or more inhabitants, the urban fringe of cities 50,000 or more in population, and counties having no incorporated municipalities within their boundaries, but having a population density of 1500 persons per square mile.
metropolitan influence. In the Quetico area, northwest of Lake Superior, visitation has steadily grown over the past seven years; 46,493 visitors in 1959, 66,531 in 1961, and 84,357 in 1963 (50, p. 87). This is in a wilderness region where the character of the landscape implies limited use, solitude, and an individual relationship with nature. Furthermore, Cook notes that in 1963, persons bent on communing with the natural wonders of Yellowstone National Park had to commute from accommodations 50 to 75 miles beyond the park's boundaries (21, p. 90).

**Discretionary Income**

That income above the requirements of the normal cost of living is generally referred to as discretionary income. ORRRC study report 23, *Projections to the Years 1976 and 2000*, noted that at a projected annual growth rate of 3.5 percent for the gross national product, disposable consumer income may be expected to rise from $354 billion in 1960, to $706 in 1976 and to $1,437 billion by the turn of the century (98, p. 140, 142). Individual family affluence will also continue to rise (see Table 2).

Projections indicate that the average per capita income will double its 1962 figure by the year 2000 (19, p. 34). The implications of this occurrence will have a significant bearing on recreation demand. First, there will be more total money available, and
secondly, a greater proportion will be available to recreation, above the demands of normal living costs. Prior to the economic depression following 1929, an estimated $10 billion was spent on outdoor recreation, travel goods, and services. In 1946 approximately $15 billion was spent on these items, while in 1960, estimates place the value between $20 and $30 billion (94, p. 4; 46, p. 30; 4, p. 18; 90, p. 57).

Table 2. Family Income in the United States in Terms of 1962 Purchasing Power

<table>
<thead>
<tr>
<th>Income Range</th>
<th>1929</th>
<th>1947</th>
<th>1957</th>
<th>1962</th>
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<tr>
<td>Under $2,000</td>
<td>31</td>
<td>16</td>
<td>13</td>
<td>12</td>
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<td>2,000–3,999</td>
<td>39</td>
<td>28</td>
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<td>19</td>
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<td>4,000–5,999</td>
<td>15</td>
<td>26</td>
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<td>6,000–7,999</td>
<td>7</td>
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<td>8,000–9,999</td>
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<td>10,000–14,999</td>
<td>6</td>
<td>9</td>
<td>12</td>
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</tr>
<tr>
<td>15,000 plus</td>
<td>5</td>
<td>3</td>
<td>5</td>
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</tbody>
</table>

Per capita income in dollars

| 1,316 | 2,027 | 2,367 |

Source: U. S. Department of Commerce

**Increased Leisure Time**

In 1900, the average work week was 60 hours. Today, it is
slightly less than 40 hours, with numerous predictions of a 30 hour work week by the turn of the century (94, p. 22). These figures are further accentuated by the increase in the number of paid holidays and vacations. Paid holidays increased from an average of four in 1946 to eight in 1963 while paid vacations have doubled in the past decade. Approximately 80 percent of the nation's workers are employed by firms offering three or more weeks paid vacations, giving these workers nearly 120 days a year not obligated to the job (44).

The primary influence of decreasing work weeks on recreation resource development is couched in terms of its distribution. That is, will the 30 hour work week in the year 2000 be composed of five days at six hours or will it be four days at seven and one-half hours? With a three day weekend, there would be an expected increase in demand upon the more resource-oriented sites; camp grounds, fishing areas, and the like. If, however, the work day decreases, the major impact of increased demand will be felt at the more urban or user-oriented sites; tennis courts, city parks, and golf courses.

In addition to decreasing work weeks, the impact of modern conveniences needs to be ascertained. The amount of time involved in completing household chores and yard work has been greatly reduced and the average home owner finds an increasing amount of time available for activities of his own choice.
Interestingly, until only the past few decades, leisure time has been the possession of a relatively small segment of American society. Much of America held to a work ethic, where hard work was seen as a virtue and idleness (seen as being synonymous with leisure) was disdained. But with increasing productivity per work unit, the consumptive activities have come to take their place alongside production as a major function in our economy (6, p. 299).

**Increased Mobility**

In the 20th century, there is undoubtedly no single invention that has had as far reaching ramifications as the automobile. Only 8,000 privately owned motor vehicles were registered in the United States in 1900. By 1954, this had increased to over 48 million (8, p. 20).

Increased mobility, stimulated not only by the automobile, but by other modes of transportation and by vastly improved arterial systems, represents a major problem in recreation resource development. It elevates outdoor recreation to the status of a pressing national concern, and it complicates greatly the planning and provision of facilities (94, p. 22). Prior to World War I, the average per capita distance travelled was less than 500 miles. In 1963, this had increased over 10 times, to approximately 6,000 miles (19, p. 36). Forty-four percent of all tourists travel over
500 miles on their vacation trips today (94, p. 39).

In any discussion of outdoor recreation, mobility is a factor which must be accorded a central position (106, p. 153). Only when this is done does an orderly pattern emerge. A full understanding of the role of the automobile and other modes of transportation and of improved systems of highways provides an enlightened view of outdoor recreation demand.

**Complementarity and Intervening Opportunity**

Affecting the demand of any particular area is the number, characteristics, and variety of alternative or intervening areas. At times the relationship is one of complementarity, where the use of one area tends to increase the use of another. As Ullman has pointed out, however, complementarity generates interchange between two areas only if no intervening complementary source or opportunity is available (86, p. 22). Thus, we may utilize the following generalization offered by Clawson:

...a major factor influencing the use of any recreation area is the existence and location of other recreation areas. The nature of this relationship may vary, and the effect may be weak or strong; but it is impossible to consider one area alone, and expect to arrive at accurate estimates of recreation usage (19, p. 59).
Summation

The factors that have been discussed all fit into a complex interrelated schemata which produces the phenomenon known as demand for outdoor recreation. And this demand adequately justifies the need for developing outdoor recreation resources. It is difficult to restore the natural resource base of an area once it has been sacrificed to over-use or diverted to other purposes (73, p. 5). Thus, the research of the future will need to learn more about the capacity of different areas to supply recreation without modifying its desirable qualities. More will need to be known about the traits and desires of the different segments of the total public who visit the recreation sites (41, p. 26).

Many of the factors of demand that appear axiomatic in nature require additional investigation. Little attention has been given to those persons missing out on the seemingly universal affluence. Nor has the effect of automation been adequately researched, a phenomenon that could lead to an unimagined dislocation of American society (106, p. 212). Wilensky has suggested that the work week of Americans may be declining on paper, but that in reality, is as long as it was two decades ago (105). Finally, little research has been conducted regarding the impact recreation will have upon the private sector of the country. Secretary of Agriculture Orville
Freeman recently estimated that over 350,000 full-time jobs may result from farm and other rural recreation enterprises by 1980 (76, p. 2).

Thus, recreation resource development is faced with a complex and demanding problem. Both dynamic and static factors influence the result and any rational approach must account for them in order to provide reliable guidelines. The provision of such guidelines is a must, for to quote the words of Geddes:

... the case for the conservation of nature and for the increase of our access to her, must be stated more seriously and strongly than is customary. Not merely begged for on all grounds of amenity, or recreation and repose, sound as they are, but insisted upon (31, p. 51).
CHAPTER III

HISTORICAL OVERVIEW OF RECREATION RESOURCE DEVELOPMENT

The early origin and concern for the rational development of recreation resources, seeded in European roots, may be traced through a dynamic and changing world to its present status in modern urban America. It has been wisely observed that "the past is prologue to the future." From a period when the physical environment represented only a source of daily needs, there has emerged a relationship fostered by the need of modern man for an environment that satisfies certain intrinsic needs as well as the basic essentials of life.

The European Heritage

To the serf, the landscape of feudal Europe represented little more than a source of daily sustenance. Scattered settlements, based almost exclusively upon agriculture, characterized the early settlement pattern. With the advent of the Industrial Revolution, however, there was a division of labor created which fostered the expansion of rural and urban settlements. Areal development, accentuated by increasing population densities, brought about
significant alterations in the indigenous landscape, as well as in the social and economic structure of the society.

The growth of industrialization into the rural areas of Europe and the concomitant decline of the landscape may be viewed as occurring in three distinct stages. Initially, the encroachment of the factory system and its attendant political structure into the countryside led to a growing utilization of rural resources. Secondly, there began to occur a gradual deterioration of the rural and indigenous landscape through such processes as deforestation, parcellation, mining, mechanization of agriculture, introduction of monocultures, faulty methods of cultivation, and the construction of industrial and power plants (36, p. 896). In the third stage, there arose on the part of the urban population a growing realization of the loss. The demand for temporary environmental compensation became common; as a consequence, the rural indigenous landscape became the recreation environment. This new rural pattern, or the "steppe of culture," was imposed over the original cultural landscape, thus altering greatly prior economic, physical, and social conditions (36, p. 896).

The pressure of recreationists on the remaining rural and indigenous places became so great that it destroyed the very attraction that these areas had possessed. Gradually, the social and medical demands of those persons in the cities for recreation land
became incompatible with the physical limitations of, or the distance to, recreation sites.

With the decline of naturally endowed areas, the need for long-term developmental plans became obvious. Such plans would not only guarantee adequate space for the enjoyment of future generations, but would also provide protection for those areas of outstanding attraction. This early concern initiated a heritage, based upon an affinity for the total landscape, that aided in the maintenance of a resource base that had been seriously depleted.

The American Period

Recreation resource development in the United States is a relatively recent phenomenon. There has long been a belief that the outdoors is a right of Americans, not only to be enjoyed but vital to the spirit. The early agrarian origins of the country fostered an intimate link between our forefathers and the outdoors. With the rights of enjoyment, however, are linked the responsibilities of stewardship. As the vast resource system of America, apparently infinite in scope, revealed itself to the early settler, there was a tendency to ignore the edict of the European experience.

The early settlers were men imbued with the spirit of individualism and personal accomplishment. Successive waves spread west across the Appalacians into the new and unexplored frontiers.
They came from all ranks of contemporary society and from this cross-section arose the American frontiersman. Their recreation reflected their environment; while their lives were far less structured than their counterparts on the Eastern Seaboard, they had fewer opportunities for social gatherings (27, p. 70). As a result, some of America's most colorful folklore arose; the shooting match, all night dancing festivals, and the inevitable drinking contests.

But the relation between the settler and the physical environment remained much the same as had existed between the feudal serf of Europe and the land. In terms of perception, the environment offered the settler a place to live and food to eat. Those activities considered "pleasurable" by the colonist of the Eastern Seaboard (hunting, fishing, etc.) were to the settler essential for existence. Immediate survival was the only concern; as a result, the resource base was exploited heavily and haphazardly.

Little attempt was made by the government to direct land settlement at this time, although several states had issued military scrip to veterans. There was, however, a general disdain for any established authority and as Frederick Turner has pointed out, the objective of most frontiersmen was to better their circumstances—an opportunity that lay in the great mountain empire to the west (10, p. 183).

Frederick L. Paxson has written that:
it was the open frontier that kept America growing during its first century of national existence...when the frontier closed in the eighties, the habit of an open life was too strong to be changed off hand. The search for sport revealed a partial substitute for pioneer life (6, p. 300).

Indications of the early awakening of concern for the provision of adequate outdoor recreation areas may be noted as early as the 17th century, where in New England, the Commons, the forerunner of the modern city park, had been established (7, p. 95).

A Changing Society

The opportunity to develop the resources of the continent, the need to establish foreign and domestic trade and commerce, and the desire to assert our economic and political independence fostered a strict adherence to the work ethic. At the onset of the 19th century, America was experiencing the forerunner of many of her contemporary problems; trends toward urbanization, a growth in industrial development, and an increasing population. America was entering the first phase of its transformation from scattered agricultural communities into a highly complex urban society.

The development of recreation resources for the enjoyment of the populace was limited. Puritan and Calvinistic influences still associated recreation with idleness and moral degradation, and such attitudes melded well into the prevailing philosophy of the work and Protestant ethic.
By the middle of the 19th century, however, there began to occur a significant change in the character and volume of outdoor recreation demand. What stimulated this revival in the concern for the outdoors is difficult to explain. Barlowe has suggested that until the previous century, man had long been associated with the outdoors in work and play. With the advent of industrialization, primarily in an indoor setting, outdoor sports and recreation became recognized as activities in themselves (6, p. 300).

Glikson feels that the recreation movement must be considered as belonging to the wider contemporary movement of population to and away from the centers of growth. Further, the demand for recreation represented a reaction against the psychophysical complexity of life introduced by centralization and industrialization. This reaction reveals the tendency of persons to attempt to reverse spatial relations by balancing centripetal concentration with centrifugal diffusion (36, p. 897).

Also to be considered is the fact that as the country experienced rapid change, there grew a desire on the part of people to witness the growth. New turnpikes and canals, the steamboat, and the railroad were working revolutionary changes in American life which affected recreation as well as business and industry. The movement of people resulted in a growing demand for accommodations and facilities for tourists and visitors, a phenomenon not restricted
to only the upper class as had been true in the past, but also the working class. It was said:

there is scarcely an individual in so reduced circumstances as to be unable to afford his 'dollar or so,' to travel a couple of hundred miles from home, in order to see the country and the improvements which are going on (27, p. 149).

Prior to this period, the distribution of economic activity was essentially a function of the expanding, nucleated, agricultural regions that reached out over the continent, bringing ever greater amounts of land under cultivation (66, p. 217).

The 19th century must certainly be considered as salient in the growth of public concern for the rational development of recreation resources in the United States. In 1830, William Cullen Bryant, editor of the New York paper, The Evening Post, began to urge for the purchase of "reservations," particularly on Manhattan Island, which at the time was an empty rocky expanse. The idea survived over a 20 year period to 1852, when it became a major issue in the mayoral campaign. The area was subsequently bought and developed into the famous Central Park (26, p. 27).

Similar projects were initiated throughout the northeast. Fairmount Park in Philadelphia was developed in 1868. There was, however, a growing concern that the development of single, isolated parks would not be capable of providing adequate facilities for future generations. In a truly advanced concept of planning for
future demand, Charles Eliot of Boston called for the establishment of a system of parks and natural reservation throughout the urban region of the city. Developed in response to the glacier-like movement of urban construction across the land, Eliot noted that much of the scenic resources of the area had been alienated from human satisfaction for all time. His plan brought 36 separate cities and towns under a metropolitan district, laid out park sites, and provided for public control and landscaping of much of the shores of the rivers and lakes of the region (94, p. 15-16).

The Federal Level

Prior to the 19th century, the Federal role in recreation resource development was of a limited nature, in line with the policy of laissez faire. But the growth in population, coupled with the foresight of a few individuals, initiated the concept that certain areas should be held in trust for all time and for all people. Federal participation in the establishment of recreation land may be traced to 1872 when President Grant signed a bill that set aside a tract of some 3,000 square miles in the Yellowstone area (42, p. 185; 94, p. 18).

The Federal role increased appreciably in 1916 when Congress established the National Park Service in the Department of Interior and charged the agency to conserve scenery, national historic
objects, and wildlife, and to promote their enjoyment yet leave the natural environment unimpaired for future generations. While planning is an implicit notion in such a mandate, the official authorization to include planning as a charge of the Service was made in 1936 under the Recreation Act. The Act called for the Park Service to conduct recreation planning surveys in cooperation with the state governments (42, p. 185).

The National Resources Planning Board

In 1933, the National Planning Board was created as an active segment of the Public Works Administration. The Board was charged with advising and assisting the Administrator of Public Works:

through preparation, development and maintenance of comprehensive plans. . . through surveys and research. . . and through analysis of projects for coordination and sequence. . . and to obtain the maximum amount of coordination and correlation of effort among the agencies of the Federal, state, and local governments (42, p. 21).

The agency was reorganized in 1934 to become the National Resources Planning Board and charged with preparing a:

program and plan of procedure dealing with the physical, social, governmental, and economic aspects of public policy for development and use of land, water, and other national resources and such related subjects as may from time to time be referred to the Board by the President (91, p. 21).

In 1934, as a part of the National Resource Board's Report on
Land Planning, the National Park Service prepared a study entitled *Recreational Use of Land in the United States*. This marked a significant phase in Federal policy toward recreational land planning, as it provided an appraisal of recreational resources and requirements and established guidelines for management and planning at various governmental levels. Even at this early date it was recognized that the burgeoning population represented a salient causal factor in planning for outdoor recreation. It noted that:

planning lands for recreational use in a metropolitan region...is concerned primarily with preserving lands desirable for recreation in the more open sections...where the density of population is relatively low (90, p. 113).

A number of the reports of this agency make specific reference to the need for the development of the nation's recreation resources. This concern continued from the inception of the Board into World War II. The report for 1942 expressed a concern for adequate recreational facilities, not only during the War, but after. It was at this time that the National Park Service began a recreational survey in the Colorado River Basin:

working to assure that the internationally known recreational resources of the Colorado River Basin will receive full recognition in any plan for the coordinated development of that watershed (93, p. 37).

Following reports reiterated the need for attention being drawn to the nation's recreational resources. A 1943 report called
for the evaluation of lands to determine if the present use should be readjusted to an alternative use, including recreation (92, p. 13). Further, in suggesting public works as a useful tool in an area's program of development, they noted:

because there is a lack of public access to the high quality seashore which includes parts of two states, the proper Federal agency should submit plans for the acquisition of land and the development of a Seashore Park in this area. This project should be promptly planned and steps should be taken to begin the acquisition of land before the development of a highway into this section makes costs unduly high (92, p. 18).

The objective of the public works program in the recreational field was to acquire or to preserve and to provide improvements on, as much of the land as was needed to place adequate recreational facilities within reach of every citizen. It called for special attention to be directed at the following six areas:

1. Urban areas and neighborhood parks.

2. Holiday and week-end use, such as picnicking, water sports, and hiking. At least one such area was to be located within 25 miles of those for whom they were chiefly provided.

3. Vacation use on public holdings. Within 200 miles of all urban centers, recreational areas possessing interesting terrains, modest forest covers, and flowing water were advisable.

4. Shore lines of oceans, rivers, lakes, and streams.

5. Areas with scenery of outstanding distinctive character. Also included were areas of structures of outstanding historic, prehistoric, or scientific significance.
6. To round out the public recreational system, the report called for the construction of parkways, trailways, routes of water travel, and wayside resting places along major highways (93, p. 92-93).

Two other Federal innovations are worthy of note. In 1933, in conjunction with the public works program, the Civilian Conservation Corps was established, functioning until 1942. Many of today's recreational areas are directly attributable to the efforts of this organization. Also in 1933, the Federal government established the Tennessee Valley Authority (TVA) as an independent corporate agency. This represented the first major action program utilizing a river basin as a planning unit. In addition to the program for the conservation and multipurpose use of the water resources of the Tennessee River, Congress also authorized, in sections 22 and 23 of the TVA Act, a program of study and planning for the better use of other natural resources of the Tennessee Valley (72, p. 1).

Although the National Park Service had conducted a number of planning surveys, the question of determining an economic rationalization for development remained unanswered. In a letter dated June 11, 1947, Associate Director A. E. Demaray of the National Park Service addressed the problem bilaterally. First, what are the benefits of the National Parks to the national, state, and local economies? Secondly, what methods might be devised to analyze the economic developments in areas contiguous to parks (69, p. 2-3).
The answers were as diverse as the men consulted, but they can be generally sorted into two major groups. The first felt that the benefits of recreation were primarily intangible; as such, only visible factors, such as land values should be evaluated. The second felt that the demand for recreation could be analyzed in much the same way as the demand for some agricultural or industrial commodity. The significance of this particular report however, is that it marks the initial attempt to assign a monetary value for use in recreation resource development. In chapter four, this report shall be examined in more detail.

The State Level

The role of the state in developing recreation resources has been especially pronounced since 1921. At this time, state park directors and supporters organized the National Conference on State Parks (58, p. 202). There is, however, historic record as to the concern of states for the planning and provision of recreation areas. As early as the 17th century, Massachusetts vested "Great Ponds," bodies of water more than ten acres in size, with public title (94, p. 137). In 1864, a group of California citizens successfully petitioned Congress to grant to the state most of what is now Yosemite National Park.

In the 1938 National Park Service report, Recreational Use
of Land in the United States, it was recognized that the states occupied an integral position in governmental structure. The report notes:

Upon the state rests the responsibility for acquiring and conserving examples of the native landscape which deserve protection, but which lie outside the field either of the Nation or of the municipalities (90, p. 5).

The Present Situation

In the more recent decades, there has been a steadily rising concern at all levels of jurisdiction concerning the problem of providing adequate recreational areas for an increasing population. A number of studies have been conducted, both by Federal and state agencies, as well as private groups and individuals. While they have indeed added to our knowledge and understanding of the total problem, numerous deficiencies and misconceptions still exist.

Thus in June of 1958, Congress called for the establishment of the Outdoor Recreation Resources Review Commission (ORRRC) and charged it with the responsibility of conducting an intensive nationwide study of outdoor recreation at all levels of government and of the private sector. The authorizing act, Public Law 85-470, identified a threefold mission. This included:

1. To determine the outdoor recreation wants and needs of the American people now and what they will be in the years 1976 and 2000.
2. To determine the recreation resources of the nation available to satisfy those needs now and in the years 1976 and 2000.

3. To determine what policies and programs should be recommended to ensure that the needs of the present and future are adequately and efficiently met (94, p. 2).

Expressed in these directives is the implicit prerequisite of adequate planning guidelines and procedures. Certain persons have approached this problem in the light of their respective disciplines: Marion Clawson's economic evaluation of recreation; Alfred Clarke's and R. C. White's analysis in a sociological frame of reference; and Kenneth Anderson's integrated model based on the identification of resource types and user groups. ORRRC study report 24, Economic Studies of Outdoor Recreation, advances four methods of placing an economic value on the recreation experience. Reports five, 19, and 20 examine the value of outdoor recreation in the terms of its sociological benefits. Finally, reports such as four, ten, and 17 examine the physical qualities of the recreation environment.

Two monumental achievements of the ORRRC study are worth noting. The first is the establishment of the Bureau of Outdoor Recreation (BOR). Created under Public Law 88-29, the agency has been charged with, among other duties, formulating and maintaining a comprehensive nationwide outdoor recreation plan (70). The second stems from Public Law 88-578, establishing the Land and Water
Conservation Fund. This provides states with monies for conducting and formulating outdoor recreation plans and for the acquisition and development of needed land and water areas (71, p. 1). Contingent to receiving such funds, however, the state must submit to the BOR a planning project proposal for approval. Monies for this fund are derived through the sale of Recreation/Conservation stickers, other entrance and user fees, sales of surplus property, and the motor-boat fuels tax (71, p. 2-3).

Other agencies at various levels have attempted to construct guidelines for consideration in recreation resource development. The California Planning Committee in 1956 submitted a plan utilizing a ratio of park area to city population for determining park areas; the National Recreation Association, and the American Society of Planning Officials have similar endeavors. The National Association of Counties currently provides planning assistance in the form of technical advice to counties. At the private level, Resources for the Future, Inc., supported by the Ford Foundation, has made a number of contributions to the assignment of economic values to recreation, primarily under the direction of Marion Clawson and Jack Knetsch. In 1961, a conference held in Ottawa, Canada, "Resources for Tomorrow" was a culmination of a study similar to that of ORRRC, analyzing the needs and demands of Canadians upon the recreation resource base of the country (100, p. 204-5).
One remaining organization, now disbanded, should be mentioned. The *Guide for Planning Recreation Parks in California* noted in 1956 that "a basis for space standards for regional parks is needed and should be developed through an independent study" (4, p. 9). In response to this statement, an outline for a study of regional recreation planning methods was drafted by a group of interested individuals, sponsored by the American Recreation Society and the California Recreation Society. Resources for the Future, Inc. provided the financial backing and in June of 1957, the National Advisory Council on Regional Recreation Planning was organized. From this organization came a significant piece of literature entitled *A User-Resource Recreation Planning Method*. This represents one of the more promising conceptual models advanced to date.

Nevertheless, in an examination of the historic continuum of outdoor recreation, we must reach the inescapable conclusion there is not in existence any adequate method of comprehensively analyzing recreation resource needs in an integrated manner. It would be satisfying to be able to judge all recreation areas by a single measuring rod. No such measure is now available, however, and some authorities feel that it is unlikely that such a measure is possible or perhaps even desirable.
CHAPTER IV

PARAMETERS OF CONSIDERATION IN RECREATION RESOURCE DEVELOPMENT

Efforts at establishing more effective guidelines for the development of outdoor recreation resources and the provision of facilities have been common since these functions have been recognized as a public responsibility. It has become imperative to delineate and measure the source and consequence of increased demand. Pressures on existing resources have far exceeded capacity and the problem has been further aggravated by the provision of ineffective acreages.

Dimensions of Developmental Considerations

In a cognate analysis of recreation resource development, the resource manager must examine the situation as an integrated complex, characterized by multi-faceted factors. The following discussion has delineated four major parameters of concern: (1) the economic justification and ramification of recreation resource development; (2) the effect of varying social class structure upon the allocation and distribution of recreation resource development; (3) the evaluation of the physical site, designed to promote optimum and efficient development; and (4) the development of the recreation
resource base in an acceptable relationship to the potential user population. Each of these dimensions will be examined in the context of the interrelationship between the development of the recreation resource base and the consuming public.

**Recreation Resource Development and its Economic Rationale**

Estimates of the demand for outdoor recreation are basic to any developmental considerations and relevant to any determination of public policy. The use of resources for the provision of recreation precludes their use in the production of some other good (95, p. 3). The right of the general public to expect a statement of the economic contribution of a recreational development at a public project is thus most legitimate.

Beyond this consideration, however, an accurate and acceptable means of evaluating outdoor recreation would provide for a more rational and efficient utilization of the recreation resource base. This could be accomplished in three ways. It first would provide a means for comparing the importance of recreation with that of other uses of the same resource. Knetsch has emphasized the importance of this in an examination of Kerr Reservoir on the Virginia-North Carolina border. His study revealed a value of $1.6 million for recreation, twice that of flood control and nearly a third that of power, uses normally considered as primary in water projects (47,
Secondly, the ability to project a value for recreation at a given development would provide one measure of the desirability of making the necessary investment. Finally, the value of recreation would provide a guideline for the assignment of user fees, which in turn will influence use at any given development (20, p. 2). A recent study by the National Park Service in Glacier National Park revealed that 61 percent of the visitors would be willing to pay between $0.50 and $2.00 per party for use of campgrounds and facilities (57, p. 28). With these figures in mind, administrative personnel are provided with a basic guideline for the assessment of user fees.

The Early Attempts

As mentioned in chapter three, the National Park Service in 1947 undertook a major research project to determine a means of measuring recreational values. The problem was approached in two ways. Primary attention was centered on a determination of the benefits of the National Parks to the national economy, to the states, and to local communities. Subsidiary to this analysis was the examination of economic developments in areas contiguous to parks. The problem was posed to a number of recognized experts in the field of economics and survey research.

The general theme of the report was negative. The conclusion
noted "there is no acceptable standard of evaluation that can be used to place a monetary value on recreation that is not arbitrary" (69, p. 27). The basis of this negative feeling can be traced to the belief that the recreation experience was beyond the demand curve and any value obtained would be indicative of miscellaneous expenses, rather than for the experience per se.

Dr. Howard Ellis of the Department of Economics at the University of California noted that "what the visitors actually pay for is largely food and shelter, and not in any way indicative of the other values for which they really come" (69, p. 7). Along a similar vein, Dr. Edgar Hoover of the University of Michigan Department of Economics commented that the overall utility or justifiability of the park system could probably not be measured at all and that it could prove dangerous to even try and argue the issue in terms of dollars and cents. He felt that the park system could justify its existence in two ways:

(1) By increasing the productive efficiency of those who find recreation in the parks, and thus indirectly increasing national income in the form of other products; (2) by providing more or better recreation per dollar spent than alternative forms would. This involves no change in national money or expenditure, but means we get more fun out of the money we earn and spent (69, p. 27).

Current Analysis

In the viewpoint of modern economists, in a market economy
the market process serves as an information medium in transmitting to producers the qualitative and quantitative desires of consumers. Such desires, therefore, function as a catalyst for recreation resource development (24, p. 39).

The purpose of attempting to assign to recreation a monetary value is to allow the resource manager to more efficiently select among the various resource uses and in the case of outdoor recreation, to more efficiently allocate development. The word "efficiency" is used in all the ramifications of the definition. Thus, a particular site chosen for development should provide the greatest economic return to the managing agency while providing the maximum degree of social benefit to the user. Further, the development should be undertaken with the concern of maintaining the entire ecosystem. Thus, the resource manager would do well to follow the procedure of Firey, analyzing not only the economic considerations, but the ethnological and ecological as well (29, p. 21).

There are obvious methodological difficulties in the determination of a monetary value for recreation. It is not the scope or intent of this thesis to probe the intricacies of theoretical economics; rather it is intended to demonstrate that through the determination of a value, whether indicative of primary, secondary, tangible, or intangible benefits, more efficient resource development is possible.

Various approaches have been suggested, but major attention
has been directed to this area primarily since the previously mentioned study of the National Park Service in 1949. Despite the overriding negative theme of the report, one suggestion is deserving of mention. Professor Howard Hotelling suggested the identification of travel zones around a given recreation area. These zones would be delineated on the basis of travel costs. By determining the number of visits from each zone, it would be possible to arrive at a value for the recreation provided by the area.

The obvious discrepancy in this method is the assumption that all visitors value a recreation area identically and that this is equal to the travel costs of the person travelling the longest distance. Thus, the benefits are the money saved by those travelling a shorter distance, or those who enjoyed a consumer surplus (48, p. 391).

A number of other suggestions have been advanced in the past two decades. In each, however, is the common theme that visitation or demand at a development is a function of the cost. Clawson's demand curve analysis is the most noted. He has attempted to construct two curves; one representative of the total recreation experience and the other indicative of the recreation opportunity per se (19, p. 13). In doing so, it is necessary to examine the nature of the total experience. Components of the experience include: (1) anticipation and planning; (2) travel to the outdoor recreation area; (3) on-site experience; (4) travel back, from on-site
to home; and (5) recollection (95, p. 75-76). Obviously, such aspects go beyond the realm of economics, yet it is these factors which provide incentive for the expenditure of money to visit an outdoor recreation development.

Clawson’s method of projecting the volume of use upon a recreation resource development is enhanced by the relative availability of data. The volume of use is ascertained in terms of the proportions of a total population which actually took advantage of a known opportunity (19, p. 15). Such information is readily available to the resource manager by combining visitor interview returns with Census data. Thus it would be possible to determine the proportion of visitors from a given political unit, such as a county or state. By combining this data with an average per visit cost, a value of the recreation opportunity, or more succinctly, a figure induced by the recreation development, would be obtained.

As was true in the use of the Hotelling method, there is the implicit assumption by Clawson that the demand schedule is essentially the same for all areas. Three factors preclude this assumption. The first is that some people make a conscious effort to reside near a development, thereby shortening their distance (costs). Ginsberg has noted that the use of a resource implies a consciousness of need and the will to invest in the effort required to utilize the resource (34, p. 202). Thus, individual need provides an
inequity in the demand schedule. The second point is that the time involved in reaching a recreation development is highly perceptive in nature, and may be used interchangeably with money. With more money, time may be reduced. With ample time, cheaper forms of travel may be relied upon. Travel of some degree and length is a necessity nevertheless, and may be regarded by some as a benefit and as a cost by others (19, p. 15). A study by Volk concerning the recreational use of national parks revealed that the distance between the recreation area and the place of residence of the potential recreationist was the most important factor affecting intensity of use (101, p. 653). This is generally corroborated by the findings of a study by Trotter of factors influencing attendance at state parks in Illinois. Statistical analysis revealed a $r^2$ value of .24 between population variation in a 75 mile radius of the park and attendance (84, p. 31).

Most Federal agencies rely upon Senate Document 97 in the evaluation of land and water resource development. It notes that "well-being of all the people shall be the overriding determinant in considering the best use of water and related land resources" (68, p. 2).

This "well-being" is necessarily determined in context of national, regional, state, and local considerations. Evaluation is, therefore:
based on the expectation of an expanding national economy in which increasing amounts of goods and services are likely to be required to meet the needs of a growing population, higher levels of living, international commitments, and continuing economic growth (68, p. 5).

Finally, the variability in preference functions bears directly on the propensity of an individual to utilize an area (48, p. 390). Therefore, instead of examining volume of use upon a development as a function of cost, \( V = f(C) \), it should be expressed rather as \( V = f(C, Y, S, G) \), where \( V \) and \( C \) are as before, \( Y \) is the income of population groups, \( S \) is representative of intervening opportunity, and \( G \) is a measure of use at the area (48, p. 391).

The justification of an economic evaluation of recreation has to be regarded as unqualified. The resource base of the nation is, in keeping with the American heritage, a public right and a public responsibility. It is thus the consequent responsibility of the managing agency to develop the resource base in accordance with the creed of maintaining and improving this base for the maximum social benefit. The economic procedures discussed, regardless of their individual methodology, attempt to provide a monetary expression of this benefit. But it must be understood that statistical projections are records of consumption rather than of demand. They are subject to policy decisions or administrative actions that can potentially change either the supply or the demand determinant of consumption (109, p. 217).
Furthermore, as illustrated in hearings on Senate bills 1164 and 1221 "the actual economic value for a visitor-day will vary in various parts of the country, and will very likely vary from time to time as economic conditions change" (88, p. 32). Perhaps most important, however, is the fact that economics cannot necessarily accommodate those activities most beneficial in terms of future societal needs. The reservation of those recreation areas deemed desirable for their wilderness qualities could never be justified in terms of present demand and supply analysis. To justify these areas it is necessary to consider, in the context of long-term values, wilderness as a higher use. And the determination of what will constitute the higher use of our total natural resource base is couched in terms of perceptual evaluation by various user groups.

Social Structure as Related to Recreation Resource Development

The careful analysis of the social structure of a given region is an essential process in the rational and efficient development of the recreation resource base. A number of studies have pointed out the existence of a relationship between social class and preference for leisure. But as was discussed in chapter II, leisure cannot be treated as being synonymous to recreation. To reiterate, leisure constitutes "all the time in a day when the individual is not sleeping, eating, or working" (104, p. 145). Recreation on the other
hand includes "the expressed or latent interests and activities that occupy some of the leisure time of people" (4, p. 21). Furthermore, the percentage of an individual's time spent in outdoor recreation is far from agreed upon. Clawson indicates only three to four percent of a person's leisure time is disposed in such a manner (19, p. 7). The Outdoor Recreation Resources Review Commission, however, indicated that this figure is on the magnitude of 20 percent (94, p. 31). The importance of a more accurate measurement is obvious. Development based upon the former figure, but subjected to a volume of use equal to the latter, would experience five times its expected capacity. Discrepancies such as this are indicative of only one facet of the complicated problem of recreation user identification.

**Social Class Identification**

Social class identification is a primary necessity in the development of recreation resources. Man's identification of the total environment about him is a function of his social environment. Thus, man identifies an object or thing as a resource in terms of the function to which that object or thing may be put (108, p. 8). Or, more succinctly stated, resources are defined by human perception (52, p. 373). Individuals and interests groups perceive a resource complex differently and thus have differing ideas as to its best use.
The theories involved in identifying a particular social class, or more correctly, the stratification of a society, have undergone an evolution of concepts similar to those of many of the social sciences. Early Marxian theory provided a clear unequivocal answer based on the prevailing economic system. Those who owned the means of production were the ruling or upper class, while those who did not, were the exploited or lower class (79, p. 103). But the general tendency for modern sociologists is to recognize that a social class is more than a function of, or a response to, economic means: rather, class is expressive of those characteristics among families that affect their relationships with others, such as occupation, housing, and education, as well as income. These factors combine to form a pattern which is further emphasized by the way people think about social matters. As Kahl has noted "...popular thought creates stereotypes out of abstractions" (45, p. 12-13).

Systems of Identity

Thus, as a necessary corollary to social class delineation, it is also necessary to define those characteristics, both social and economic in nature, which provide families with similar life styles. Various methods have been advanced. The Index of Status Characteristics (ISC), devised by W. Lloyd Warner in 1949, provides the researcher with a ranking of social class based upon occupation.
source of income, and residential neighborhood (104, p. 145). In addition, the North-Hatt Occupational Prestige Scale, based upon ratings of occupation by a cross-section of the American population, permits the translation of prestige levels to numerical scores for comparative purposes (18, p. 302).

Data reported in the National Recreation Survey strongly suggests the existence of "stable associations between socioeconomic characteristics of the current population and the rates at which the population currently engages in outdoor activities" (99, p. 11). A brief review of the literature supports such a statement. In a study of Cuyahoga County, Ohio, White hypothesized that leisure was a function of class position. Utilizing the ISC scale, his research indicated that the rate of use of leisure per 100 persons at parks and playgrounds was related to social class as follows, (for males): Upper Middle, 1.6; Lower Middle 7.0; Upper Lower, 12.2; and Lower Lower, 23.0 (109, p. 147). A similar situation existed for females.

Clarke's study of the use of leisure in relation to levels of occupational prestige generally corroborated White's findings. He established five levels of occupational prestige, utilizing the
North-Hatt Occupational Prestige Scale. Three of the activities considered by White are germane to this study (see Table 3).

Table 3. Leisure Activities by Prestige Level Participating Most Frequently

<table>
<thead>
<tr>
<th>Activity</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playing Golf</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driving or Riding for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Pleasure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: (18, p. 304)

The importance of factual research is dramatically portrayed in Table 4. The idea is current that most American spend most of their spare time in a sedentary, spectator role. Obviously development based on this premise would be representative of ineffective and inefficient acreage.

Level I had a score on the North-Hatt Occupational Scale of 82-96; Level II, 75-81; Level III, 67-74; Level IV, 55-66; and Level V, 44-54.

Level I included most professional persons
Level II encompassed managers, officials, and proprietors
Level III included sales and clerical workers and white-collar employees.
Level IV included skilled craftsmen and kindred workers.
Level V composed of service workers, semi-skilled and unskilled.
Table 4. Percentage of Respondents Devoting Most of their Leisure Time to Spectator Type Activities, by Prestige Level

<table>
<thead>
<tr>
<th>Type of Leisure Activity</th>
<th>Prestige Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Spectator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>120</td>
</tr>
<tr>
<td>Non-spectator</td>
<td>74.3</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: (18, p. 305)

Contributions of ORRRC

The efforts of the Outdoor Recreation Resources Review Commission must certainly be considered as representative of the growing desire on the part of resource managing agencies to more fully understand those forces related to recreation resource development. In particular, three reports stand out as especially significant in the analysis of social class structure as it relates to development. Report number five, The Quality of Outdoor Recreation: As Evidenced by User Satisfaction, describes the preferences of visitors for various developments and relates these desires to the visitor's socioeconomic characteristics (100). Turning to factors of demand, study report 20 examines through a multivariate analysis the relative significance of age, income, education, sex, and place of residence as they influence participation (97). Finally, study report 26,
**Prospective Demand for Outdoor Recreation**, discusses the demand for various activities in relation to a number of socioeconomic characteristics and provides, again through multivariate analysis, expected demand in these same categories in 1976 and 2000 (99).

**Sociological Implications in Recreation Resource Development**

In the preceding cursory examination of the role of social research in recreation resource development, it has been illustrated that preference for certain types of development varies in relation to certain social and economic characteristics. The implications of such a relationship must be clear to resource managing agencies. The development of resources and the provision of facilities in the absence of such data is equivalent to deleterious, inefficient, and illogical recreation resource management.

Burdge et al., in a 1962 study of a rural Ohio county, analyzed the recreation situation in terms of the sociological, economic, and physical aspects of the area. They note:

The social class composition of a particular locale is an important factor in determining the extent and location of different types of recreation facilities (13, p. 14).

Among the findings it was noted that the average participant in outdoor recreation activities was an urbanite who favored public development over that of private (13, p. 4). In this brief statement of social characteristic, those concerned with the development and
planning of the recreation resource base are provided with items directly correlated to management decisions. First, the acquisition and development of lands by a public agency will be needed to efficiently meet the growing demand. Secondly, as the average visitor was an urbanite, development of the recreation resource base must be initiated in conjunction with the provision of adequate access to insure maximum social benefit.

Growing cognizance of the ramifications of variable social preference can be noted in the literature. Anderson's User-Resource Planning Method is based largely upon the identification of user groups, major divisions of recreation users based upon similar recreation experiences and certain social and economic characteristics. And, as he notes correctly, such data is readily available, both from on-site interviews and Census data (4, p. 20-21). Finally, the Bureau of Outdoor Recreation, in establishing the criteria for individual states to meet for receiving grants-in-aid, calls for the analysis of social attitudes and preferences in the completion of state outdoor recreation plans (87, p. 7-8).

Concluding Analysis

Beyond providing guidelines for development of recreation resources, social research can provide land managers with additional information concerning resource utilization. Dana suggests,
and Brockman concurs, that such information could identify the underlying motives of preference (23, p. 30; 8, p. 11). Burch has noted, in accordance with the previously mentioned thoughts on value perception, that camping "...tends to have a life and process uniquely its own" providing "...its own goals and sources of motivation" (12, p. 605). These thoughts may seem strange to the individual charged with the development and planning of recreation resources, but at the risk of being redundant, it is again emphasized that recreation resource identification and use is perceptual in nature. Thus, a more complete understanding of the vagaries of preference related to socioeconomic characteristics can provide a more orderly and rational development of the recreation resource base. Tracing Firey's syllogism of the ethnological approach to resource use, one can note "there is at least one set of resource processes existing somewhere as a resource complex which is not valued by some population in terms of that population's own system of activities" (29, p. 28). The intent of the statement is clear; resource development incongruous with societal values is a direct mis-use of the environment.

Processes of Site Evaluation

An initial prerequisite to optimum land management is a full and adequate knowledge of the adaptability and capability of the
resource base. The lack of accepted standards for the analysis of recreation resources and the comparison of recreation development as opposed to other forms of use is historic. Two projects are in order: (1) an inventory of the present and prospective recreation resource base; and (2) a continuing survey for supplemental purposes (23, p. 3). This section will examine three salient components of physical evaluation: (1) inventory and classification; (2) on-site analysis; and (3) the role of an attraction in recreation resource development.

The Nature of the Recreation Resource Base

The exact nature of the recreation resource base is clouded in a haze of perceptual interpretation. While there is no general agreement as to what constitutes recreation resources or recreation land, there is apparent agreement that the nature of the resources or land is determined largely by the use to which they are put (82, p. 86). Furthermore, an integral component of the total recreation experience is a place, which includes a proper area and a setting (4, p. 19).

Highsmith et al. note that those elements of recreational value include scenic resources (land forms, biota, etc.), location, accessibility, adequate size, and a favorable climate (42, p. 180). A further definition is provided in the official policy of the National Committee on Recreation which reads in part:
Continued conservation of the natural resources of the nation which may be utilized as one of their highest purposes for quality recreation for all the people. These resources include our forests, mountains, waterways, beaches, places of inspiring natural beauty, historic sites, and wildlife (8, p. 193).

Endeavors at classifying the recreation resources into some manner of schematic order have been attempted on various criteria. The ability to classify and categorize recreation areas and resources would be of distinct advantage to the resource manager. However, "no such measure is now available... because different areas are managed for different purposes. For each purpose, or set of purposes, specific standards must be met" (82, p. 84). Thus is introduced the concept of resource classification as related to the satisfaction of a specific purpose. It is worthwhile to examine a statement pertinent to this point from a 1959 California study:

Recreation resources may be divided into several types. These are defined in terms of the kind and amount of man-made development needed to satisfy the recreation requirements of the user groups. The recreation potential of these resource types is measured by rating the environmental characteristics of the region's resources according to tested criteria based on observed use and sampling of the population (4, p. 14).

Such a statement makes the exact role of the preceding two sections more explicit and the theme of this entire thesis more exact. Orderly and rational development of the recreation resource base is possible only through the study and understanding of the interplay between related forces; economic, social, and physical.
Inventory and Classification of Recreation Resource Types

Responsible stewardship of the recreation resource base must be based on a solid foundation of knowledge. The variety and character of the resource base and the associated activities, demands a competent resource inventory, supplemented by an operable classification system (89, p. 57).

It is difficult to restore the natural resource base of an area once it has been sacrificed to over-use or delivered to some other purpose. Such circumstances can be cited throughout the country with disturbing regularity. To prevent such deleterious development, it is necessary that a systematic inventory of the recreation resources and lands be undertaken. With such information, it would be possible for the resource manager to undertake development in an orderly and rational manner.

As has been mentioned, however, the problem of resource identification and the lack of accepted criteria for the establishment of a classification system has hindered management decisions. The basic need has been a categorization of recreation uses according to certain common land characteristics. This would make possible the establishment of a ranking scale for land classification based on varying recreation types (82, p. 86).

Two recently devised systems of inventory and/or classification
have provided resource managers with a more substantial means of determining the quantity and quality of their resource base. Taylor has developed a system of inventory based on five criteria: attraction, cover, terrain, size, and drinking water (82, p. 87). Recreation areas are thus examined according to the following form.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Present (+)</th>
<th>Absent (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terrain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking Water</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: (82, p. 87).

The overriding importance of an attraction will be dealt with later in this chapter. Taylor has posed a tentative categorization of area quality. "Highly suitable" areas would have a plus mark through all criteria, "good" would have an attraction, but a minus in one of the other four criteria, "fair" would have a minus in the attraction category as well as one of the other criteria, and an "unsuitable" area would lack an attraction, plus two other attributes (82, p. 87). The system is flexible in that numerical scores could be easily substituted. Further, it could be used to evaluate
specialized areas, such as for skiing.

The Outdoor Recreation Resources Review Commission report, *Outdoor Recreation for America*, has introduced a classificatory framework that has a high degree of promise in recreation resource development. The system is a continuum ranging from high-density use areas to wilderness.

Class I--High-Density Recreation Areas
Areas intensively developed and managed for mass use.

Class II--General Outdoor Recreation Areas
Areas subject to substantial development for a wide variety of specific recreation uses.

Class III--Natural Environment Areas
Various types of areas that are suitable for recreation in a natural environment and usually in combination with other uses.

Class IV--Unique Natural Areas
Areas of outstanding scenic splendor, natural wonder, or scientific importance.

Class V--Primitive Areas
Undisturbed roadless areas, characterized by natural, wild conditions, including "wilderness areas."

Class VI--Historic and Cultural Sites
Sites of major historic or cultural significance, either local, regional, or national.


More specific requirements of these areas are provided in the standards which states must meet to obtain grants-in-aid. These include characteristic examples, physical characteristics, locations,
activities, developments, and responsibility (87).

The primary advantage of the ORRRC classification system is that it relates the entire range of recreation resource types to recreation activities in such a manner as to allow the most logical and efficient use of the land (94, p. 120).

A classification system that presents the resource manager with a highly tangible means of analysis has been mentioned by Carhart. He calls for the study of wildlands through master-plan units. These in nearly all cases would be defined in terms of physical features, such as a river basin (17, p. 57). By the very terms of the definition, the resource manager would be supplied with a definite unit of study.

The assignment of recreation areas into broad categories based on resource quality permits the resource manager to view the macro-pattern of the entire recreation resource complex. But to initiate decisions for the most efficient development of the base, it is necessary to move from a macro-view point to one more detailed in nature. This leads to the second topic, on-site analysis.

On-Site Analysis

It has been suggested that the greatest danger to parks is not commercial exploitation, but deterioration of the parks from overuse by the swarming hordes of vacationists (43, p. 7). One of the primary
objectives of site analysis should be to determine the "best" use of that particular area, not only in terms of the present situation, but related also to projected trends in demand for resources. Such study may reveal that the physical qualities of the site are such that recreation use would be deleterious. Or, that recreation development would not represent the most effective utilization of the land, in economic and biologic terms.

Site Capability

Often, the very efforts made to preserve a natural system of vegetation will bring about unplanned and undesirable changes in it. Stone has called for the employment of vegetation-preservation specialists in the management of vegetative complexes (80, p. 1263). One of the most common objectives of the park program throughout the country has been to maintain the current vegetative cover, generally through fire control. But as Stone notes "the fact that vegetation protected from fire may change completely in a relatively short period has rarely been considered" (80, p. 1263).

Recreation resource development and the consequent use pressure may have a manifold effect upon the components of the ecosystem. Gibbens and Heady point to the problem of soil compaction introduced by vehicular and foot travel in the Yosemite Valley. Compaction leads to reduced air space, lowered water infiltration
rates, and increased run-off—conditions unfavorable to plant growth. In addition, much of the forest litter and duff, the principle source of organic matter, is removed by visitors for kindling. This leads to a further loss of nutrients to the soil. Finally, shrubs and other herbaceous growth have been reduced by the continued trampling (33, p. 31).

A most interesting study has been reported by Hartesveldt concerning the giant sequoia of California. His analysis indicated that the lack of fire, accentuated by soil compaction, has endangered the continued existence of the sequoia stands. This is in an area where the resource managing agency (the National Park Service) is charged with maintaining the Sequoia groves in a natural condition for all generations (39, p. 17). Their management decisions, however, have been such that there has been a trend toward the elimination of the species.

Finally, Sharsmith has pointed to the attrition of the back-country meadows of the Sierra National Parks. In an area where

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3 The young sequoia is intolerant of shade conditions. Other species, particularly fir, are much more tolerant and are thus slowly replacing the sequoia stands.

4 Muir notes that the High Sierra country was suffering severely as the result of sheep herding as early as 1890. For a more complete statement, see John Muir, Our National Parks, Boston, Houghton Mifflin Company, 1909.
shorthair grass once was plentiful for forage, today "the meadow looks as if it had been manicured regularly with a lawnmower," a typical ecological response to overuse (78, p. 118).

The resource manager must consider the quality of the recreation experience in any proposed decisions for development. The satisfaction derived from a recreation complex is, in part, a response of the recreationist to the quality of the resource base. Thus, research in the future will need to learn more about the capacity of different areas to supply recreation without modifying the qualities of the area (41, p. 26).

Recreation Development Versus Other Use

The development of resources for recreational purposes is generally affected by most of man's other activities (8, p. 27). Timber harvest, dam construction, and industrial development often represent powerful economic and political blockades to recreational development. Certainly, no problem offers more challenge to the discipline of geography than that of ascertaining the "best" use of the land resource base.

The doctrine of multiple use was designed, ideally, for "the management of all of the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people" (17, p. 213). Various
authors, however, have challenged this legislation by noting that the doctrine exists in theory only. Thus, it is the place of the resource manager to examine the resource complex, balancing the assets and debits of the resource base with the demands and requirements of society, both today and in the future.

This is not to suggest that multiple, or perhaps more correctly, co-dominant use, is not possible or desirable. The Division of Forestry in South Dakota reports the development of a management plan which allows fishing, hunting, and other recreational uses in combination with forestry, carried out under stringent logging practices (107, p. 32).

Careful on-site analysis will often reveal that the area will not support intensive timber or agricultural activity. Without effective competition from the normal demands of land use, recreation becomes relatively of greater importance. Recreational phenomena serve to differentiate and characterize areas; some areas are predominantly recreational in economic character (56, p. 251). In an early study by McMurry of Roscommon County, Michigan, results indicated that limited agricultural capability of the land enhanced the opportunity for recreational development. Recreational development on only three percent of the land accounted for 50 percent of the assessed valuation and tax income (55, p. 9). Wagar indicates, furthermore, that lands in seemingly non-remunerative recreation
use enhance the economic value of adjacent private lands (102, p. 431).

The ramification of such research is indicative of the need for sound evaluation of the physical adaptability and capability of the site. Site characteristics need to be considered not only in the context of their own developmental possibilities, but also relative to the impact upon adjacent areas, both economically and ecologically. User impact upon a development, however, is not necessarily a function of development; rather, it is related more closely to the inherent natural values of the area (102, p. 431). As a final component of site analysis, it is thus necessary to examine the role of an attraction in recreation resource development.

The Role of an Attraction

Merriam has correctly noted that recreation opportunities rather than sites are important. That is, the level of facility provision means nothing unless related to some attraction (57, p. 29). While an attraction may constitute a natural or cultural feature of the landscape, most persons concerned with recreation resource development identify water as the prime resource requirement (30). In fact, Loomer, perhaps somewhat facetiously, has defined recreation land as "narrow strips of riparian land" (51, p. 6).

The importance of water to recreation resource development
can hardly be overstressed. ORRRC, noting that 44 percent of the population prefers water-based recreation activities over other activities, devoted four study reports to water and water related resources (94, p. 173). In a guide for recreation site selection, the Oregon State Park system notes "water interest is one of the most valuable factors you can find for a recreation site" (65). Taylor, in his previously mentioned study, concurs with Fisher in recognizing that the attraction of a site most generally will be water oriented (82, p. 86).

Physical site evaluation requires, on the part of the resource manager, a detailed knowledge of the relationship existing not only between the components of the ecosystem, but also between the ecosystem and the user. The quality of recreation provided will be in large part a function of this understanding. But in the development of the recreation resource base, there is an additional consideration; that of quantity. There has been a consistent underestimation of public desire for recreation land with the consequence that areas set aside have experienced use far greater than expected. No one can tell exactly how much land is necessary for recreation. There have been, however, attempts, largely on the part of the planning profession, to provide guidelines for development in terms of recreation acreage as related to population.
Recreation Area Standards

The provision of outdoor recreation areas and facilities in accordance with population has been an accepted practice since the turn of the century. Primarily, area standards serve to provide guidelines for urban areas and as a consequence, are not of salient importance to the theme of this study, except in their general principle.

There is considerable controversy concerning the applicability of such standards. Sessoms has referred to traditional planning standards based upon distance traveled from home and number of acres per 1000 population as obsolete (77). Tankel, however, sees the National Recreation Association standards as adequate (81).

It must be recognized that such standards are to be viewed as operational only in the context of individual situations. In providing recreation space for its citizens, a municipality is dealing with a fixed population, supported by, at least hopefully, adequate projections of growth. The factor of the highly mobile visitor is of minor consequence. Thus, for example, the city of Portland, Oregon, purchases open space of desirable size along its periphery as the population in these areas begins to grow. Area standards are applicable here because the ultimate population, according to present zoning standards, is relatively fixed (67, p. 23).

Above the municipal level of jurisdiction, standards can still
play a significant role in providing adequate recreation resource development. This is primarily through pointing out the relative roles that various governmental levels should play, complementary and supplementary to one another. As an example, the NRA expresses the thought that state governments should provide at least 65 acres of park land per 1000 population (62, p. 20). Lynch indicates that only five states in the country meet this standard. If however, other state lands are included (forest, game refuges, etc.), 27 states meet the requirement (53, p. 127). Furthermore, many of the states which do not meet this basic standard have considerable development at other jurisdictional levels, particularly Federal (Oregon and Colorado, for example).

The American Society of Planning Officials has realized the need for standards based upon cultural background, age, and socio-economic characteristics of the population. They also note that standards are only points of departure in the optimum allocation of recreation resource development and that such standards are in constant need of reappraisal in response to the rapidly changing conditions of modern society (59, p. 2).

A significant concept to resource development has recently been emphasized at both the state and local level. This is the application of regional analysis in the establishment of recreation standards for areas. The recreation plan for the state of Tennessee has
established a standard of 100 acres of regional parkland for every 25,000 people (22, p. 77). Similarly, the Division of Recreation for the state of California has called for the establishment of county regional parks. These are areas administered at the county level, but serving regional needs with development based upon the resource qualities of the area (15, p. 6).

Recreation area standards must satisfy four criteria to be of value in recreation resource development: (1) they must adequately meet the needs to which they are related; (2) they must be tested by experience; (3) they must be acceptable to expert practitioners; and (4) they must be reasonably attainable (14, p. 34). In addition, as mentioned previously, they must be constructed in light of the underlying socioeconomic characteristics of the user population. As such, their applicability to recreation resource development, outside the urban arena, is limited. Primarily, this is a response to the impact of mobility on the part of users. Standards are of greatest value where the distance between the area and the potential recreationist is limited and where the demand is more urban in nature (play fields, ball parks, and related development). The blind provision of recreation areas simply to meet standard requirements often results in the ineffectual satisfaction of user desires and in the inefficient utilization of the land resource base.
Summation

Recreation resource development is an integrated process involving the synthesis of economic, social and physical factors in such a manner as to promote the efficient and rational utilization of the resource base. This development is relative not only to the present demands of society, but is couched in terms of the needs of our progeny. Knowledge and understanding is the key. Without these essentials, development must be considered as an irrational and inefficient use of the land resource base. And such a condition is impermissible, for today, at a time when the demand for adequate recreation development is rapidly increasing, the recreation resource base is deteriorating. Thus it has become the function, and indeed, the responsibility of the resource manager, to guide and promote development relative to the functional adaptability and capability of the resource base on the one hand and to the needs and desires of the consuming public on the other. But there exists a lack of a base sine qua non; that is, administrative actions and management decisions are initiated today in the absence of a conceptual framework that provides an in-depth, comprehensive protolysis of causal factors. To quote Gould:

There is a need for a planning process that will make continuing analyses of pressing problems, to evaluate the impact of competing solutions on the regional recreation complex, to identify costs and beneficiaries, and to assign specific projects to responsible agencies (37, p. 35).
CHAPTER V

A THEORETICAL PARADIGM FOR APPLICATION IN
RECREATION RESOURCE DEVELOPMENT

The study of recreation resource development and management is largely the study of the spatial organization and relationship of resource systems in a political body. As such, it is within the discipline of geography, or more explicitly, within the responsibility of the discipline, to provide a penetrating and elucidating analysis of this relationship.

The Geographic Approach

The chorological approach of geography, focused upon distribution and associations of terrestrial phenomena on the earth provides a unique spatial framework in the analysis of the relationship existing between human society and the natural environment (5, p. 2). Such a framework is a necessary prerequisite to the rational allocation of recreation resource development. In the absence of its consideration, less than optimal development and use of recreation resources is likely to occur.

Two components stand salient in the study and analysis of recreation resource development, and both are intimate to the
geographic discipline. Initially, the researcher is involved with the human agent. The role of man in the study of geography is notable. Hartshorne devotes a number of pages in his treatise Perspective on the Nature of Geography, to the idea that man is a distinct and significant theme in the discipline (40, p. 36-47). Murphy has noted that the geographer's focus on areas as man's home is peculiarly advantageous in rendering a major service to outdoor recreation research (61, p. 33).

Comparable in importance is the spatial aspect as it relates to recreation resource development. When this factor is taken into account, it becomes obvious that spatial imbalance, triggering the movement of people from places where they live to places where the recreation development is, represents the operationally crucial factor.

In the following discussion, a paradigm will be constructed, designed in accordance with the preceding factors. Ideally, the application of this paradigm to a given study area would provide the resource manager with a foundation of knowledge such that he might initiate administrative actions and management decisions in the best manner possible. It will additionally provide more favorable possibilities in comparative studies. Wagar notes:

Man does not as ably compare recreation quality for one area, viewed at two different times, as he does the quality of two different areas viewed at the same time (102, p. 431).
Data carefully gathered in the terms of the paradigm will permit the resource manager to submit knowledge in lieu of visual actuality in comparing various recreation areas. To accurately and sufficiently fulfill the needs of the paradigm, Plan Sheets have been prepared. These pose a number of questions which should be answered before the development of the recreation resource base is initiated. (See Appendix)

The Nature of the Study Area

It is appropriate at this time to mention the nature and scope of the study area. Two units, one physical, the other political, are suggested as affording the resource manager with the most practical means of accumulating and tabulating pertinent data. The first is based on river basins, noted by Senate Document 97 as:

the most appropriate geographical units for planning the use and development of water and related land resources in a way that will realize fully the advantage of multiple use, reconcile competitive uses through choice of the best combination of uses, coordinate mutual responsibilities of different agencies and levels of government and other interests concerned with resource use (68, p. 3).

A second possible study area may be defined in terms of county boundaries. The primary value of such a designation accrues to the availability of data, obtainable from Census Reports, County soil surveys, and county planning and economic reports. If such a unit is chosen for study, however, care should be exercised to prevent
county boundary lines from assuming concrete characteristics rather than being viewed as political abstractions.

The study area includes not only the area of proposed development, but extends to include the limits of the local population (defined below). Such a delimitation insures the analysis of the development in terms of its regional ramifications, rather than its study as an isolated and independent entity.

**Dimensions of Social Preference**

The mobility of the American recreationist must be accurately accounted for in any developmental scheme. As such, it is necessary to consider both the characteristics of the local or resident population and the transient or visitor characteristics.

**Local Characteristics of Study Area**

"Local" is, of course, a highly perceptual term. The National Recreation Association has determined many of its guidelines for areas of intensive use in terms of a one-hour driving distance or a 30 to 40 mile radius. With the improvement in highways and modes of transportation however, it is suggested that the local populations be defined in terms of a 50 mile radius centering on the area of proposed development.
### DIMENSIONS OF SOCIAL PREFERENCE

I. Local Characteristics
   A. Socioeconomic characteristics
   B. Age
   C. Cultural background

II. Projected Visitor Characteristics
   A. Attendance and seasonal use
   B. Interview response

### SITE EVALUATION

I. Inventory and Classification
   A. Site adaptability
   B. Site capability
   C. Other existing or potential sites

II. Use Relative to Durability in Time
   A. Ecological
   B. Social
   C. Economic

III. Level of Resource Converting Techniques

IV. Level of Space Adjusting Techniques

### ECONOMIC RAMIFICATIONS

I. Related Benefits of Development
   A. Project benefits
   B. Stimulation of local business
   C. Stimulation of adjacent land values

II. Related Costs of Development
   A. Reduced tax base
   B. Benefits through alternative uses

III. Existing and Potential Complementary and Supplementary Services

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**STUDY AREA**

**DECISION**

**IMPLEMENTATION**

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Socioeconomic Characteristics

There are a number of components comprising the socioeconomic characteristics of a population. Fortunately, the more influential of these are readily available in Census Reports, published on a county basis. The accumulation of such data permits the construction of socioeconomic profiles which in turn allow the resource manager to visually ascertain the social structure of the local population. As pointed out in chapter IV, social class is related to recreation preference in a positive or linear fashion. Thus the establishment of such profiles will aid in policy decisions, providing a more accurate identification of local desires than is generally afforded.

Age

"Of all the factors, age has the sharpest influence" (94, p. 27). So states Outdoor Recreation for America concerning factors influencing demand. It is in the context of this overriding importance that age is considered as a separate component. The distribution of age throughout the entire study area, on the basis of sex, should be determined.

Cultural Background

Perhaps the most difficult question to objectively answer deals
with the cultural background of the local area. The primary concern of the resource manager is the identification of the major ethnic groups within the study area. This section, however, should also note any particular characteristics of the local population that should be considered in development. For an example, is there a significant group of persons, who on the basis of cultural background and religious beliefs, might have objections to development; e.g., Hutterites, Amish, etc.

Visitor Characteristics

The impact of visitation originating outside the study area is difficult to analyze but integral to rational development. Measurements may be conducted along two lines. First, a measure of the prospective visitor in terms of attendance, seasonal use, and socio-economic characteristics and secondly, a measure of these same characteristics relative to present visitors.

Attendance and Seasonal Use

In an attempt to ascertain prospective visitation at a site, the resource manager will generally have to estimate the figure, guided by attendance figures at similar sites elsewhere. Seasonal use will, of course, be a response primarily to the type of development. Interpolation of data from other areas must be conducted with care, in
light of varying socioeconomic characteristics, accessibility, and site attractiveness.

If development in the study area calls for the addition or extension of a previously established development, visitor characteristics and attendance figures may be more readily available. Attendance is most adequately measured in terms of man-days; i.e., a three member family at a site for two days account for six man-days (54, p. 3). Rather than a simple measure of individual visitation, this accounts for user impact on the site.

Ferris has noted three types of recreation surveys, two of which are of salient value in a model such as this. If there is no present development, data may be collected from persons passing a transportation point. Through a random sample of traffic, sufficient data could be collected to provide significant guidelines as to potential use and preference. When there is some development already present, data may be gathered from persons found within the area engaging in activities of interest (28, p. 443).

Site Evaluation

Site evaluation by the resource manager represents the second process of the paradigm. This presumes a knowledge of ecology, botany, and related sciences on the part of the manager and it is his responsibility at this stage to assess proposed development with the
physical adaptability and capability of the site, with other sites in the study area, with its durability in time, with the existing level of technology, and with various space adjusting techniques.

**Inventory and Classification**

It is suggested that the resource manager utilize the inventory system proposed by Taylor in chapter IV, mainly for its simplicity and flexibility. Similarly, the entire study area should be classified in terms of the ORRRC designations, thus permitting the resource manager to view the total supply (present and potential) of recreation resources. The study area may be examined in three ways; (1) on-site observations, utilizing Taylor's evaluation form; (2) through the examination of base maps provided by the Geologic Survey, the Forest Service, or other agencies concerned with the study area; and (3) through the examination of aerial photographs. The latter source offers perhaps some of the most valuable information. Through their analysis it is possible to obtain up-to-date information on the present patterns and types of land use and, if previous series or mosaics exist, to study changing trends in ownership, vegetation succession, and land use (25, p. 67).

**Site Adaptability**

All realistic potential uses of the area under consideration for
development must be considered. This includes forestry, watershed management, mining, grazing, and urban or industrial development. These alternative uses should be studied relative to their ecological impact upon the physical base.

Site Capability

The features that influence the use system of the area should carefully be measured. That is, the resource manager must ask "what can this area do after being put into use?" "will it produce quality recreation after a 20 year period of use?" Such questions will require a knowledge of the capability of the soils and vegetation to support use over extended periods of time.

Other Existing or Potential Sites

Ullman's comments on intervening opportunity must be considered in studying a proposed development. The presence of areas offering similar opportunities and facilities will have a direct affect upon the expected demand at a development. Thus, in the inventory and classification, it is necessary to note those areas that offer, or could potentially offer, similar or additional opportunities.

Use Relative to Durability in Time

Optimum resource development is rightfully considered in
context of not only the present, but the future as well. As such, it is necessary to view the relative durability of the development; that is, the ability of the development to maintain and/or improve the physical base. This in turn will be a measure of continuing social satisfaction and economic return. If, for example, the resource manager concludes that the physical qualities of the site will deteriorate in a short time under recreation use, his analysis should call for the substitution of another resource practice or the provision of recreation development that will preclude such changes.

**Level of Resource Converting Techniques**

Development will nearly always require the employment of techniques designed to change the materials of the physical world and life-products of the biotic world to satisfaction of the needs of the people (1, p. 26). The resource manager, therefore, must consider the techniques that will be required for the proposed development. If the subsidiary changes in the natural environment brought about by the development of an area are such that the intended quality and quantity of recreation would be impaired, development plans should be reoriented.

**Level of Space Adjusting Techniques**

Space adjusting techniques, as suggested by Ackerman, either
shorten the effective distance of travel and transportation or permit intensification of space employment beyond that possible on the land surface provided by nature (1, p. 26). Space and mobility are two factors of intense importance to recreation resource development. The resource manager, therefore, must examine the study area in terms of two variables; first, the impact of present and proposed arterial systems as they relate to the proposed development; and secondly, at the development per se, how might the various facilities be allocated so as to provide the most efficient use of space while furnishing a similar efficient amount of visitor satisfaction. The second point is in large part a concern of the landscape architect; nevertheless, it should be considered by the resource manager as it relates to site capability and visitor satisfaction.

Economic Ramifications

There has been at least an implicit assumption throughout this thesis that the primary concern herein is with public land. In line with the tenets of the American heritage, the populace has the right to a measure of the return on their tax money being used in the development of recreation resources. As noted in chapter IV, the question of evaluating the primary benefits of recreation resource development has been an enigma.

The method proposed here is relatively simple in concept, yet
hopefully provides a measure of the economic impact on the study area. It is based largely on a statement by Krutilla, who notes "development programs which alter favorably the supply functions of strategic resources will improve the region's competitive position in the national market" (49, p. 606).

Related Benefits of Development

There is an initial need to ascertain the total benefits attributable to a development. In determining the asset side of the ledger, three sources of benefits need to be considered.

Project Benefits

Project benefits, as defined by Senate Document 97, include the value of labor and of the resources required for project construction, project maintenance, and added area employment during the life of the project (68, p. 5). These figures may be obtained either from the proposed developmental plans or from similar projects previously constructed.

Stimulation of Local Business

Recreation resource development serves as a catalyst to local business growth. The exact amount and nature of the contribution of a proposed recreation development to such growth, however, is not
easy to determine. The following method should provide a reasonably accurate measure of economic growth attributable to proposed development.

Prospective business growth is largely a response to three variables associated with the recreation development: per day visitor expenditures in the study area, estimated daily attendance, and the length of the user season. By the multiplication of these variables together, a figure expressive of the total money spent throughout the season could be obtained. This would provide a value of "new money" induced by the proposed recreation development and potentially introduced into the study area. It would also provide local business with an indication of when business might be expected to increase during the year, allowing any necessary adjustments in the hiring of part-time help, remodeling to accommodate more customers, and the increasing of inventory to meet growing demand.

Stimulation of Adjacent Land Values

Recreation resource development not only stimulates the local business economy, but also has a favorable effect on adjacent land values. If available, records of changing land values should be analyzed for significant trends, and the data mapped. A statement on the effect of the proposed development on local land values, based on information provided by local planning commissions, real estate
offices, industrial development bureaus, and other interested groups, should be obtained and considered in any management decisions. Aid in providing such a statement may also be obtained by studying similar developments in other locations.

Related Costs of Development

It will be necessary to provide a measure of the costs of the development and any losses to the local revenue directly applicable to it. These losses may be attributed to two main sources.

Reduced Tax Base

Portions of the area proposed for development may be in private ownership. If the land is condemned for use in a public project, the reduced tax base will need to be entered as a debit in developmental plans. Likewise, if the managing agency needs to purchase portions of land to adequately develop the area, these costs must be accounted for in the plans.

Benefits From Alternative Uses

The designation of an area for recreation development will necessarily preclude some other use or uses. While direct monetary return should not be the deciding factor in choice of use, the economic impact of other uses, notably forestry, mining, grazing, and urban
or industrial development, should be noted. It is clearly obvious that some of these uses will produce greater economic gain than recreation. As noted on Plan Sheets 1 and 2, however, development should be conducted in terms of future societal needs and goals and on the adaptability and capability of the site.

Complementary and Supplementary Development

As a final economic criterion, the local economic situation should be analyzed in terms of its ability, present and potential, to provide complementary and supplementary services to the development. This of course, must be done in context of the type of development planned; intensive day use may require substantial local services for adequate visitor satisfaction while an area receiving primarily extensive use will need only limited service facilities.

Decision Making

The preceding discussion has dealt with those factors that, when collated, aid in producing rational management decisions concerning a proposed recreation development. There is a certain value, however, in examining those tendencies that lead toward non-rational action. Twiss notes four situations leading to such an end: (1) ignorant action, due to mistakes or omissions of fact which in the end prove important to the outcome; (2) illogical action, caused by
erroneous deductions or predictions from the facts at hand; (3) blind action, from ignoring relevant value criteria; and (4) rash action, due to the commitment to one alternative before the careful consideration of other possible ways (85, p. 48).

To avoid initiating decisions non-rational in character, the resource manager should conduct his analysis within a framework that delineates and synthesizes all related factors. Here simply stated is the rationale for the construction of the conceptual paradigm. There are, however, certain factors that relate to decision making that exist outside a formal schemata. Certainly, the legality and constitutionality of a proposed decision must be considered of salient importance. But perhaps one of the most important factors is to be found in the final subjective judgement of the resource manager himself. Often experience and common sense will be used as criterion for decision making. The resource manager may feel that the present problem is similar to one encountered previously. If the decision arrived at in the prior situation led to an apparently satisfactory solution, he might decide that in the immediate case, it is not worth the effort to gain additional information and that it would be simpler to apply the old decision anew. This has certain practical advantages. The danger lies, however, in that decisions enacted in such a manner tend to perpetuate an improper status quo.

In establishing a decision concerning a proposed recreation
development, it may naturally be asked "Where and when do what values examined in the paradigm supercede one another?" In answer to this, it is initially difficult to examine any main factor in a vacuum from the others. It can be noted in the paradigm on page 81 that dashed lines separate the main headings, indicating the exchange and interplay of each category's influence. For example, the economic evaluation of a recreation development is contingent to a large degree upon social preference which in turn is satisfied by certain physical qualities of the site.

There remains, however, an area of consideration for the resource manager that is most difficult and most important in the final decision regarding the proposed development of a recreation resource complex. In simple terms, what kind of environment do we wish to bestow upon our progeny? No objective, quantitative formula can answer this. Its answer is almost wholly subjective in nature. And it is for this subjective nature that it is included in the paradigm, providing a balance between the objective data concerning related factors and the subjective evaluation of a concerned society.
CHAPTER VI

CONCLUSION

The encroachment of urban and industrial trappings upon the land resource base of America is an occurrence of disturbing frequency. With the number of growing demands upon the use of resources, it has become necessary for the resource manager, on behalf of the public, to enact management decisions in an efficient and orderly manner. The question is, what constitutes efficient and orderly development? The phrase has a certain degree of sophistication and alludes to a certain amount of "good" within the chosen decision. A developmental plan, nevertheless, that provides for the efficient and orderly development of a timber resource for harvesting purposes does not necessarily constitute a similarly beneficial use as far as recreation is concerned.

Thus is introduced the concept of priority scheduling or the determination of the "highest" use. Development in these terms considers not only the needs and demands of the present populace, but those of future generations as well. This is a difficult task, but a necessary one. It must be understood that it is the responsibility of today's citizens to insure the rights of their progeny. Such a guarantee is only possible through research that integrates and
synthesizes significant variables relative to recreation resource development.

The "acid test," so to speak, for any theoretical concept, is field application. Only under such conditions may the paradigm be analyzed as to its practical usefulness. While theoretical concepts are essential, their ability to produce practical results in the field marks their true usefulness to the resource manager. Field application would provide three important facts: (1) it would eliminate unessential variables from consideration; (2) it would point out additional variables for efficient evaluation; and (3) it would provide a measure of the validity of results derived through the mechanism of the paradigm.

The data supplied by the paradigm is designed to aid the resource manager in his decision concerning use. It is at this level of administrative concern that the paradigm is of most value. It facilitates the formulation of decisions and policies relative to both practical and theoretical considerations. Moreover, it identifies relevant data for consideration by the resource manager.

A moderate degree of structure has been provided in the Plan Sheets for the purpose of comparability. This will allow comparative studies of areas with similar characteristics which may reveal shortcomings in the methodology or the enactment of management decisions outside the efficient evaluation of contributory variables.
The proposed paradigm suffers from a two-fold weakness inherent to the system. First, our present level of interpretative mechanisms is inadequate; thus we inefficiently utilize and interpret the data that is available. Secondly, the level of present research is inadequate in that it does not identify variables of significant influence that lie beyond current means of measurement. That is, certain variables may have a most significant bearing on the development of recreation resources, yet are not considered in management decisions because they have yet to be identified. Statistical and computer research at this level offers most promising results.

Justification, however, lies in the belief that it is better to analyze a number of known significant variables, though incomplete, than it is to pursue one particular realm of consideration to extreme ends, perhaps at the neglect of others of importance.

In conclusion, the final value of the paradigm is couched in terms of its usefulness. Despite shortcomings in variables of consideration and the imperfection of sophistication, the return of data promoting more efficient and rational development of the recreation resource base makes the paradigm of vital concern to the resource manager, and indeed, to the public, present and future.
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DIMENSIONS OF SOCIAL PREFERENCE

The following information may be obtained through Census reports, city, county, and regional planning reports, or other studies utilizing socioeconomic data, such as industrial development plans, special business reports, and the like.

I. Local Social Characteristics of Study Area

A. Socioeconomic characteristics

1. Male-female ratio
2. Average income
3. Types of occupations, with percentages in each
4. Rural-urban population distribution
5. Housing characteristics
6. Seasonal distribution of unemployment
7. Trends in mobility
8. Education level
9. Average family size

B. Age distribution

C. Cultural background
II. Visitor Characteristics

A. Attendance and seasonal use
   1. Gross annual visitation
   2. Seasonal distribution of use

B. Interview response
   1. Home city
   2. Distance traveled
   3. Size of party
   4. Age distribution
   5. Activity engaged in
   6. Type of development desired
   7. Occupation
   8. Income bracket
   9. Education level
   10. Type of area lived in
   11. Frequency of visitation
   12. Length of stay
   13. Total money spent in study area
      a. per day expenditure per person (total money spent in
         study area divided by number in party)
PLAN SHEET 2

SITE EVALUATION

The resource manager should supply answers to the following questions, based on his on-site evaluation of the area of proposed development. Additional comments, if pertinent, should be noted.

I. Inventory and Classification

A. Does this area have: (if present, check +, if absent, -)
   1. An attraction
   2. Terrain favorable to development under consideration
   3. Suitable natural cover
   4. Adequate size for development
   5. Drinking water available

B. What ORRRC classification does this area come under, in terms of present and proposed development?

C. What other potential uses may realistically be considered at this site, at present and in the future?

D. Under proposed development, what is the probable ecological response?

E. What other developed sites are there in the study area? Do they offer similar opportunities to those at the planned development?

F. What other potential sites are available in the study area?
PLAN SHEET 3

ECONOMIC RAMIFICATIONS

I. Related Benefits of Development

A. What will be the capital investment in the development of this area? (Wages, locally purchased materials, etc.)

B. What is the general pattern of economic growth throughout the study area over the past three decades?

C. Utilizing the projected attendance figures and the per day expenditure per person figure, what is the value of "new money" that may be expected as a result of the development?

D. Describe the present pattern of land values throughout the study area and offer a judgement as to the probable effect of the development upon these values.

II. Related Costs of Development

A. Determine the loss to appropriate jurisdictional bodies of the study area in terms of taxes, condemnation, eminent domain, etc.

B. Considering additional or alternative uses of the study area, determine the primary benefits from each if pursued in lieu of the proposed recreation development. (Cruiser's evaluation of timber, value in leasing for grazing, etc.)
III. Is there sufficient capital in the study area to provide needed services to complement and supplement the proposed development?