A METHOD FOR IDENTIFICATION AND EVALUATION OF LAND FOR RECREATION POTENTIAL

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Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

MASTER OF LANDSCAPE ARCHITECTURE

in

Landscape Architecture

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December, 1986

Blacksburg, Virginia

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(ABSTRACT)

A Land Evaluation and Site Assessment system for Recreation (LESAR) was developed to provide those who wish to preserve lands suitable for recreational use with a quantifiable tool by which to do so. The framework of this system is patterned after the Soil Conservation Service's Land Evaluation and Site Assessment (LESA) system developed to evaluate land being considered for conversion of farmland to other uses. The new LESAR system utilizes a weighted factors approach and both resource based and non-resource based criteria by which to evaluate specific tracts of land for predetermined recreational uses.

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CHAPTER OUTLINE

CHAPTER I

This chapter identifies the underlying purpose of the study including the specific research question and corresponding goals and objectives. In addition, this chapter includes a discussion of the methods and techniques used in order to accomplish the above mentioned goals and objectives.

CHAPTER II

Chapter two provides a look into the recent past, focusing on land resource evaluation methods in hopes of drawing out relevant issues to be incorporated into a resource evaluation method specifically designed for recreational use. In addition, chapter two identifies the criteria used by other resource evaluation methods and provides information on how to extract and compile data relevant to a land evaluation and site assessment for recreation system.

CHAPTER III

Discussion in this chapter focuses on the components of the actual LESAR system and into the overall process of the system.

CHAPTER IV

The purpose of chapter four is to provide a better understanding, through the use of a hypothetical example, of the step-by-step instructions for implementation of such a recreational land evaluation and site assessment system and to identify potential problem areas for future investigation.

CHAPTER V

Chapter five includes a summary of the overall study, basic conclusions drawn from such a study and recommendations for additional research. This chapter will also include a short discussion on the implications of this study on related disciplines.

CHAPTER I

Introduction

Today communities around the country are experiencing development pressures never felt before. Much of this pressure has resulted in conversion of agriculture and open space lands to more intensive urban land uses. If this present action continues it will not be long before cities, towns, and local communities will miss good opportunities for recreational or open space utilization of land within their present boundaries. This study is an attempt to address this issue of rampant development by creating a method to identify and quantifiably evaluate parcels of land, and the existing resources and conditions associated with them, for their recreational/open space potential and ultimate protection.

In the past, there have been methods for evaluating land resources which have included recreational criteria. However, to date, no known method for evaluating recreation land has been based on both land evaluation (whereby land is rated based on its natural resource potential for recreation) and the site assessment (which assesses the value of other factors such as economics, adjacent land use, politics, etc., for a parcel of land). This study involves researching existing methods of land resource evaluation as a basic foundation for the formulation of a new, more conprehensive, recreational resource evaluation method.

This method of resource evaluation for the purpose of recreational and open space land identification and evaluation will have application in three basic situations: (1) in situations in which the specific recreational use or uses have been determined yet no specific land tracts have been identified for acquisition; (2) in instances when a specific tract of land becomes available and alternative recreational opportunities are evaluated to determine the best use; and (3) in situations where there are a variety of land tracts available for a specific recreational use and each are performance tested to determine the best land tract for that particular recreational use. In keeping with the technological age we are entering, this resource evaluation method will have the flexibility to be used manually or with the aid of a computer (more specifically, a geographic information system). It is anticipated that landscape architects, planners, parks and recreation officials, developers and others will begin to use this system to identify and protect those lands most appropriate for our recreational needs.

Purpose of Study

The intention of this study is to determine if a practical method can be created for the purpose of evaluating specific tracts of land for specific recreational uses.

Research Question

Is there a practical, quantifiable way to identify and evaluate land, based on existing resources and associated site conditions, for recreational use? How can this method be used to justify land for recreational utilization?

Research Objective

To develop and demonstrate an easily used quantifiable tool for identifying and evaluating lands based on their potential as recreational sites and/or their potential for integration into an existing or proposed recreational network.

Methodology

This study utilized a three phase process in developing a tool for the identification and evaluation of land resources based on recreational potential. Phase I, the **Data Collection** phase, consisted essentially of investigating existing methods of land evaluation in order to extract land evaluation data (ie. slope, vegetation, availability of water, etc.) to be used as indicators for the success or failure of a certain site for a particular recreational use. Phase II, **Selection of Model Framework**, focuses in on the Soil Conservation Service's LESA system for preservation of agricultural lands as a model for the creation of a new land evaluation and site assessment system for recreation. And finally, Phase III, the **Application Phase,** which essentially involves applying Phase I (Data Collection Phase) with Phase II (Model Framework Phase) revealing how the data compiled was utilized within the confines of the new LESA system for recreation(LESAR).

Phase I: Data Collection Phase

The purpose of this phase was to identify land/site characteristics (factors) to be used in this land evaluation and site assessment system for recreational land (LESAR). A number of existing land evaluation methods were investigated including, but not limited to, the following: first the Resource Development Approach developed by G. Angus Hills, who in 1961, investigated th potential productivity of land; second, the Landscape Corridor Approach developed in the early sixties by Phillip Lewis which attempts to utilize the concept of resource corridors; third, the Ecological Approach which Ian McHarg developed based on ecological determinism; and finally, the LESA program (Soil Conservation Services's Land Evaluation and Site Assessment System for agricultural land) which is a weighted factors approach aimed at helping planners judge whether prime, highly productive agricultural lands, should be protected from rapid urban development. In addition, other information, including articles from such notables as Frederick Steiner, Robert Melnick, Jamie Bastedo, Gordon Nelson and John Theberge were also investigated for their contribution as well.

The first step in compiling land evaluation and site assessment factors to be used in the new LESAR ystem was to determine a set of criteria that each land evaluation (LE) and site assessment (SA) factor chosen must meet in order to be considered. It was felt that each LE and SA factor must:

1. be easily measurable without specialized scientific equipment or easily accessible in existing literature.

2. consistently affect the success or failure of at least one specific recreational activity.

3. be an element of the lithosphere, the hydrosphere, the atmosphere or a factor (other than the above) which has the potential to significantly alter the value of a tract of land.

The second step essentially consisted of listing any and all topics related to LE and SA and to review all existing information available on those topics in order to extract the LE and SA factors that met the above mentioned criteria.

Phase II: Selection of Model Framework

The existing methods of land evaluation identified in the search for LE and SA factors in Phase I were reviewed in this phase for their potential to be used as a framework for a new land evaluation method specifically designed for recreation. It was determined that the SCS's LESA system would be the most appropriate land evaluation method by which to pattern a new LESAR system because it possessed the following qualities:

1. **Quantifiable** - system was capable of producing an overall numerical score for a particular tract of land through the use of weighted factors.

2. **Flexible** - system could be adapted to a variety of scales and to a variety of situations.

3. **Comprehensive** - system addressed not only land resource factors but site specific non-resource based factors as well.

4. **Adaptability** - system seemed inherently adaptable for other uses.

5. **Documented** - system was well documented so that specific questions concerning the system could be answered and revisions made where necessary.

6. **Practical** - system was not cost or time prohibitive.

7. **Clarity** - system was easily understood.

8. **Representative** - system had the ability to reflect the needs and values of communities from different backgrounds, cultures, and/or locations.

Phase III: Application of Phase I to Phase II

In order to create a new system of LE and SA for recreation, the factors identified by the criteria set forth in Phase I were then compiled into one of two categories. First, the **Land Evaluation** category which included factors that are directly related to land resources. The Land Evaluation category was then further subdivided into three smaller groups called subgroups (A,B,C). Subgroup A is termed the Abiotic Group and consists essentially of inanimate, non-living components of the land. Subgroup B, the Biotic Group, focuses its attention on the living (Biological) elements of the land. And finally, Subgroup C is the Cultural/Historic Group which consists primarily of man-made, imposed elements on the land. The following table (Table I-1) gives examples of some of the factors that may fall into Subgroups A,B and C.

Table I-1 Land Evaluation Subgroups

ABIOTIC	BIOTIC	CULTURAL
Soils	Vegetation	Historic Structure
Slope	Wildlife	Burial Ground
Elevation	Plant Diversity	Battlefield Site

The second major category into which land/site factors from existing methods may fall is the **Site Assessment** category. Site Assessment identifies important factors other than land resource based factors that contribute to the quality of a site for recreational use. Site Assessment addresses factors associated with social, political and economic issues including among others, zoning, access to/from site, utilities, adjacent land use, and visual quality.

In addition, it is important that the overlap from factor to factor be reduced by combining together those factors that are essentially representing the same element. This is necessary so that the number of LE and SA factors can be kept at a managable number.

CHAPTER II

Review of Relevant Literature

Introduction

Many areas around the country are experiencing development pressures resulting in conversion of agricultural and open space lands to more intensive urban land uses. The location of industrial, commercial, and residential developments are spreading throughout formerly rural parts of the region, and have been largely determined by a series of unrelated private decisions with minimal public planning, control or regulation. (Central Virginia Planning District Commission, 1976).

Resource analysis techniques have been used to establish the suitability of sites or corridors for open space preservation. Sites have been evaluated in terms of their natural resource characteristics (water, type of vegetation, elevation, wildlife, etc.), landscape character (overall image), and ecological capability (how much change the environment is capable of supporting) for different impacts of use, design, and management (Conservation Foundation, 1967).

Yet, as Collins (1975) notes:

> Certain recreational resources in urban America continue to be poorly provided. Of the 198,000,000 hectares of public parks and open space in the United States in 1975, only three percent were within an hour's drive of major urban areas.

In his book, RECREATION PLANNING AND DESIGN, Seymour Gold (1980) states:

> Most of the work done with regards to recreational land evaluation has taken the form of evaluating existing recreational lands and their activities, after rather than prior, to implementation. Yet, another basic task of recreational planning is to classify and inventory the quantity, quality, and location of recreational resources. The inventory should include existing and potential public and private resources with the capability of providing recreational opportunities.

The idea of evaluating land for its recreational potential is not altogether new, yet the research and literature on the subject has taken its form through routine site analysis and as a supplement to environmental or historical conservation.

Although important, this literature review does not attempt to provide a comprehensive historical review of all that has been written on the subject of land evaluation. Rather, it is designed to focus on the evaluation of land for recreational potential. This initial investigation will concentrate on two areas in particular. First, a brief summary of each of the most relevant existing land evaluation methods will be investigated. The review will then shift to a more direct discussion on the recent Land Evaluation and Site Assessment program (LESA), devised in 1981 by the U.S. Soil Conservation Service as a tool to be used for the identification and protection of prime agricultural lands from increasing pressures for development. As previously stated in the Methodology, the LESA program was chosen for its ability to quantify its evaluation, its flexibility, adaptability, practicality, clarity and because it addressed the issue of non-resource based land criteria.

Resource Development Approach

In 1961, G. Angus Hills, the late Canadian agronomist, developed a resource mapping system (Resource Development Approach) for Canadian lands based on:

1. a physiographic classification of land into homogeneous units.
2. an evaluation of the physiographic classes on the basis of their potential for alternative uses under several management conditions.

This system has utility to determine the potential productivity of land. It is oriented to development, and not preservation, and it describes the capability, suitability, and feasibility of physiographic land units that can be used for recreation (Gold 1980).

Landscape Corridor Approach

By 1963, alternatives were developed in the techniques for evaluating recreational resources. Phillip Lewis, a landscape architect at the University of Wisconsisn, rather than classifying land based on homogeneous physiographic units, developed a technique based on the following:

1. Making a detailed inventory and mapping natural and man-made features in the landscape

2. Describing these features or resource patterns in the geographic framework of a corridor.

3. Assigning priorities to specific visual and natural resources with actual or potential use for recreation.

Lewis' technique is one of the first attempts towards a comprehensive resource analysis system because of his effort to integrate the concepts of visual quality, diversity, and resource corridors. The techniques of overlay mapping and resource evaluation by a numerical ranking system also developed as a result of his work. Gold (1980) writes,

> This system combines the techniques of the natural scientist, planner, and landscape architect to describe the visual, natural, and cultural features of the landscape unit. The landscape unit provides a physical and ecological unit for organizing information that can be used for planning, design, and management. The landscape unit or corridor becomes a perpetual and physical space people identify with and use for a wide range of recreational opportunities.

The Ecological Approach

In 1966, Ian McHarg developed an approach to resource analysis which ultimately became the basis for his book DESIGN WITH NATURE, in 1969. This approach was based on ecological determinism and it allows the character of the land to dictate the best use for the land. McHarg demonstrated the following:

1. That elaborate mapping techniques could be used to identify natural processes.

2. That these natural processes had values and relationships.

3. That these values and relationships could be described in terms of ecological cause and effect.

4. And that these causes and effects could be used to predict the ecological consequences of design alternatives.

The major premise in the ecological approach was that the land, if investigated thoroughly, could reveal what uses it was ultimately able to accommodate. In other words, this approach uses natural factors and processes to determine which activities of recreation are most suitable and where these activities should take place. McHarg's ecological approach combines the skills of geologists, biochemists, agronomists, climatologists, engineers, hydrologists, horticulturalists, landscape architects, architects, planners, ecologists, botanists and many other specialists of the land and of people to focus on the best design solution based on natural systems.

Yet, Bastedo, Nelson and Theberge (1984) state:

> As ecological considerations gain importance in land use planning, many resource survey methods have been designed to synthesize large volumes of diverse information. Common shortcomings, however, include the tendency to stress either biophysical or cultural information, the failure to consider adequately ecological processes as distinct from features, and the failure to translate information into a useful and/or easily understood format.

There have been other methods of resource suitability that have emerged as well as those mentioned above, yet they have been much less comprehensive and have tended to direct their efforts on larger scale, non-urban areas (Gold 1980). These include:

1. Forest landscape description and inventories, developed by the U.S. Forest Service (Litton 1968).

2. Constraint mapping, developed by EDAW, Inc. (Schaal 1972).

3. Visual quality management system, developed by the U.S. Forest System (1973).

Land Capability Classification

The oldest, most established system fo defining the ability of the land to support various uses is the U.S. Soil Conservation Service's (SCS) capability classification (Steiner 1984). Soil capability classifications are contained in county soil surveys produced by the SCS. Soil surveys also include interpretations of soil information that express limitations of land uses. Whereas the main purpose of soil survey information is for agriculture, it is increasingly utilized by planners, landscape architects, and civil engineers since, if for no other reason, it is the most comprehensive and standardized source of information for the natural environment in the United States (Steiner, et al 1984). By 1984, nearly all of the counties across the United States will have been soil surveyed (Randolph, 1984).

In 1980 the SCS developed a new system of land classification designed to assist landscape planners and resource managers in the protection of agricultural land. The Important Farmlands Mapping

Program identifies four categories for important farmland (Didericksen, 1980), they are farmland with:

1. "prime importance" nationally.
2. "unique" national characteristics.
3. "statewide importance".
4. "local importance".

While this system attempted to alleviate some of the shortcomings of the soil survey capability classification, it also created other problems. This system does not take into account the possibility that a particular county may have nearly all of its land classified as prime agricultural land, and therfore excluding urban growth completely.

Land Evaluation and Site Assessment (LESA)

The shortcomings of the important farmlands mapping program mentioned above, combined with those of the capability classification, demonstrated the need for a new system that would alleviate some of the problems and inconsistencies of earlier programs. In 1981, a pilot program developed by Lloyd E. Wright of the SCS's Office of Land Use in Washington, D.C., designed a new, two-part system "aimed at helping planners judge whether prime, highly productive agricultural lands near urban areas should be protected and under what conditions they should not be protected " (Wright, et al. 1983; SCS 1983). The program, based on a system of weighted factors, involves two separate parts:

1. The land evaluation (LE) which rates the soils of the area (usually a county) for cropland.

2. The site assessment (SA) which evaluates factors, other than soils, important in determining the overall rating of a parcel of land.

Together the LE and SA are known as the agricultural Land Evaluation and Site Assessment (LESA) system. The Land Evaluation (LE) part of the system rates the quality of the soil for agricultural use by incorporating four rating systems: capability classes, important farmlands classification, soil productivity, and soil potential. A particular soil earns points according to how well it performs based on the four previously mentioned rating systems (Steiner 1984).

Although the value from the LE system is a good indication of the relative quality of a soil for a particular agricultural use, it does not take into account the affect of location, distance to market, adjacent land uses, zoning, and other considerations which determine land suitability. In other words, relative agricultural value is only one of many site attributes which may be considered by planners and land use decision-makers. Consequently, SCS has created the Site Assessment (SA) system to incorporate some of these other attributes into the decision-making process. This new system was implemented in two pilot counties in each of the following states: Florida, Illinois, Maryland, Pennsylvania, Virginia, and Washington. SCS is currently expanding the pilot program to include counties in the other 44 states

(Steiner 1984).

So far, many counties have found that the LESA program has been useful as a tool for updating comprehensive land use plans, evaluating rezoning requests, assessing lands to be placed in agricultural or forestal districts, and in the identification of and implementation into the farmlands protection policies and programs (Montgomery County SCS 1983). To date, no uses of a LESA-type method for evaluating recreational land are known. This study aims to develop such a method.

Airola (1982) notes:

> Open space provides diversity and contrast in the urban environment. Such entities expand the range of recreational activities, create visual relief from the monotony of urban development, and promote an awareness of the quality of life still possible in cities. Open space can also conceivably function as a stabilizing influence that can help to reverse the decline of the urban environment.
>
> In order to effectively identify, justify, and utilize those lands best suited for recreation and open space continued research is essential.

As Frederick Steiner (1984) states:

> The advent of satellite imagery and computer technology have expanded the ability to inventory and monitor land and water resources. This has put increased pressure on planners [and landscape architects] to develop methods for analyzing resource suitability that are both legally defensible and accurate.

In summary, although some work has been done in an attempt to assist landscape architects and land planners with resource evaluation, more is needed. It is the purpose of this literature review to give a brief overview of recent efforts in the field of resource evaluation and to identify areas for further research and review. Although the research done by Hills, Lewis, McHarg and Wright have contributed to better land analysis and land use, it is only the beginning. In particular, open space planning has lacked a methodical, comprehensive and quantifiable approach of evaluation to assess recreational potential. It is important to identify those lands best suited for open space and recreation so that communities have adequate information in deciding between development and recreational use. Recreation and open space preservation are too important to be left only to those lands "unfit for development" or "within the Floodplain".

Lessons from Literature on Evaluation Factors for LESAR Method

Introduction

In this study, there were two primary objectives of the Review of Relevant Literature. The first objective was to provide a basic understanding of the positive aspects and shortcomings of existing methods of land evaluation (especially the SCS's LESA system), to help develop a new evaluation method for recreational potential. The second was to identify and accumulate a comprehensive resource base of existing land evaluation methods (and other information relevant to land evaluation and/or recreation) for the purpose of extracting specific resource based (LE) and non-resource based (SA) factors to be used in the LESAR system. These factors would be used as indicators of the suitability of specific tracts of land to support specific recreational uses.

Identification of Factors

The first step in identifying LE and SA factors, was to create a listing of all topics directly related to land evaluation. Table II-1 lists the topics that were determined to be directly related to the subject of land evaluation:

Table II-1 Topics related to land evaluation.

*SUITABILITY ANALYSIS	*ECOSYSTEM CLASSIFICATION
*LAND USE ASSESSMENT	*SITE ANALYSIS
*ECOLOGICAL PLANNING	*VEGETATION EVALUATION
*RESOURCE MANAGEMENT	*RECREATIONAL SITE EVAL.
*RESOURCE SUITABILITY	*IMPACT ANALYSIS
*RECREATION LAND MANAGEMENT	*LANDSCAPE DESIGN
*SOCIO-ENVIR. RELATIONSHIPS	*LANDSCAPE PLANNING
*ENVIRONMENTAL IMPACT ASSESS.	*LANDSCAPE MANAGEMENT
*GEOGRAPHIC INFORMATION SYSTEMS	*RESOURCE SURVEY
*LAND USE CAPABILITIES	*ENVIRONMENTAL PLANNING
*LAND SUITABILITY	*ENVIRONMENTAL MANAGEMENT
*LAND USE ANALYSIS	*ENVIR. RESOURCE ANALYSIS
*ECOLOGICAL DETERMINISM	*ENVIR. INVENTORIES
*SITE ASSESSMENT	*ENVIR. IMPACT ANALYSIS

The topics listed in Table II-1 were then investigated as a part of the Review of Relevant Literature and the following references were selected from these topics based on their potential contributions towards the new LESAR system.

1. "The Ecological Basis for Land-Use Planning" (G. Angus Hills).

2. "Landscape Corridor Approach" (Phillip Lewis).

3. "Ecological Approach to Resource Survey and Planning for Environmentally Significant Areas: The ABC Method" (Bastedo,Nelson and Theberge).

4. "Ecological Approach" (Ian McHarg).

5. "Landscape Design, Planning, and Management: An Approach to the Analysis of Vegetation" (Evelynn A. Howell).

6. "An Integrated Iterative Holistic Approach to Ecosystem Classification" (G. Angus Hills).

7. "Land Suitability Model for the Evaluation of Land-Use Change" (Roberts, Randolph, and Cheisa).

8. "Geographic Information Systems and Environmental Impact

Assessment (Carl Griffith).

9. "Recreation and River Type: Socio-Environmental Relationships" (Manning and Ciali).

10. "Resource Suitability: Methods for Analysis" (F. Steiner).

11. "Ecological Planning: A Review" (Steiner and Brooks).

12. "A Procedure for Land Capability Analysis in Southern Africa based on Computer Overlay Techniques" (Hammond and Walker).

13. "Protecting Rural Cultural Landscapes: Finding Value in the Countryside" (R. Melnick).

14. "The Use of the SCS Agricultural Land Evaluation and Site Assessment System in Whitman County Washington" (Steiner, Dunford, Roe, Wagner and Wright).

As prescribed in the methodology for this study, the specific set of criteria listed below were then applied to the resource based (LE) and non-resource based (SA) factors taken from the list of references above.

LE and SA factor criteria. Each LE/SA factor must:

1. be easily measurable without specialized scientific equipment or data easily accessible in existing literature.

2. on a consistent basis, realistically affect the success or failure of at least on specific recreational activity.

3. be an element of the lithosphere, the hydrosphere, the atmosphere or a factor other than the above which has the potential to significantly alter the value of a tract of land.

The following table (Table II-2) lists the forty factors that were selected based on the criteria listed above.

Table II-2 Selected LE and SA Criteria

1. AESTHETIC SYMBOLIC IMPORTANCE
2. ARCHEOLOGICAL IMPORTANCE
3. AVAILABILITY OF OFF-SITE PARKING
4. AVAILABILITY OF PUBLIC SERVICES
5. AVAILABILITY OF ZONED LAND
6. BOUNDARY CONTROLLING ELEMENTS
7. COMPATIBILITY OF RECREATIONAL USE W/SURROUNDING USES
8. COMPATIBILITY WITH COMPREHENSIVE PLAN
9. CRIME POTENTIAL
10. DISTANCE TO URBAN AREA
11. DOLLAR COST OF LAND
12. EASE OF TRANSFORMATION
13. ELEVATION
14. ENERGY RESOURCES
15. ENHANCEMENT OF ADJACENT PROPERTY VALUES
16. ENVIRONMENTAL FACTORS
17. FAUNA DIVERSITY
18. FLORA DIVERSITY
19. HAZARDS
20. HISTORICAL UNIQUENESS
21. IMPACT OF HUNTING ON WILDLIFE
22. IMPACT OF LAND USE CHANGE
23. LANDFORM
24. LAND USE ADJACENT TO SITE
25. LAND USE INTERACTION WITH ADJACENT USES
26. POLLUTION
27. POTENTIAL AS A WILDLIFE CORRIDOR
28. RATE OF LAND USE CHANGE
29. SITE POTENTIAL TO NETWORK W/ EXISTING RECR. AREAS
30. SLOPE
31. SOILS
32. SOLAR ORIENTATION
33. SPECIFIC VEGETATION
34. SPECIFIC WILDLIFE
35. SURROUNDING LANDUSE
36. TRANSPORTATION/PROXIMITY TO ARTERIALS
37. USER POPULATION/CARRYING CAPACITY
38. VEGETATIVE PATTERN
39. VISUAL QUALITY
40. WATER

* NOTE: Some factors were combined to eliminate duplication.

Phase III of the methodology for this study called for the factors identified in Table II-2 to be compiled into one of two categories. First the **Land Evaluation** category (representing factors that have a direct influence on land resources) and second, the **Site Assessment** category (representing factors affecting the value of the "site"). In addition, as can be seen in Table II-3, the LE factors were further subdivided into Abiotic, Biotic and Cultural Subgroups.

Table II-3 Categories of LESAR factors.

Land Evaluation Factors

ABIOTIC	BIOTIC	CULTURAL
ELEVATION	FAUNA DIVERSITY	AESTHETICS
ENERGY RESOURCES	FLORA DIVERSITY	ARCHEOLOGICAL
HAZARD POTENTIAL	IMPACT OF HUNTING	BOUNDARY ELEMENTS
LANDFORM	IMPACT OF L.U. CHNG.	HIST. UNIQUENESS
POLLUTION	POT. AS WILDLIFE CORR.	LANDUSE INTERACT.
SLOPE	SPECIFIC VEGETATION	RATE OF L.U. CHNG.
SOILS	SPECIFIC WILDLIFE	
SOLAR ORIENTATION	VEGETATIVE PATTERN	
WATER		

Site Assessment Factors

AVAILABILITY OF OFF-SITE PARKING
AVAILABILITY OF PUBLIC SERVICES
AVAILABILITY OF ZONED LAND
COMPATIBILITY OF RECREATIONAL USE W/SURROUNDING USES
COMPATIBILITY WITH COMPREHENSIVE PLAN
CRIME POTENTIAL
DISTANCE TO URBAN AREA
DOLLAR COST OF LAND
EASE OF TRANSFORMATION
ENHANCEMENT OF ADJACENT PROPERTY VALUES
ENVIRONMENTAL FACTORS
LAND USE ADJACENT TO SITE
SITE POTENTIAL TO NETWORK W/ EXISTING RECREATIONAL AREAS
SURROUNDING LANDOWNER CLIMATE TOWARDS PROJECT
TRANSPORTATION/PROXIMITY TO ARTERIALS
USER POPULATION/CARRYING CAPACITY
VISUAL QUALITY

CHAPTER III

Overview of LESAR System

The Land Evaluation and Site Assessment for Recreation (LESAR) system has been developed to quantifiably evaluate and assess land for specific types of recreational use. It involves two parts: first, the **Land Evaluation** which rates the abiotic (in-animate), biotic (biological), and cultural/historic characteristics of the land; and second, the **Site Assessment** which identifies important factors other than land resources that contribute to or deter from the suitability of a site for recreational use. The LE and SA scores are combined in order to produce the site's LESAR score for the recreational uses applied. The Land Evaluation section and Site Assessment section are both worth 100 points making the maximum LESAR score possible equal to 200 points. The LESAR scores can then be compared on a site to site basis (providing the criteria remains the same and providing the same recreational uses are applied to the system) so that the best site for those particular recreational uses can be determined. There are nineteen steps which must be followed in order to complete the LESAR system. The basic approach for successful completion of the LESAR system is outlined as follows. The following chapter (CHAPTER IV) provides a much more indepth explanation of each step in the process through the use of a hypothetical example.

STEP GUIDE: (To be used with graphic steps.)

Steps One (Formation of Committee), Two (Distribution of LESAR Information), Three (Adoption of Written Goals and Objectives) and Four (Selection of Recreation Classifications) are basically organizational steps designed to set up a committee to apply the LESAR system, provide them with the necessary information and to insure that all committee members have a clear view of what it is they wish to accomplish. Step Five consists essentially of selecting the recreational activities that the committee feels the community needs and assigning importance values to them relative to each other. The committee must then assign an inter-relationship value to each recreational activity/LE factor relationship (Step Six). Each of these values are then transfered to the classification matrix and multiplied by the corresponding relative importance value discussed in Step Five. The product is what is called the matrix score (Step Seven). Step Eight consists of the calculation of each recreational activity's relative weight (relative contribution of each factor to the total activity weight). The matrix score is divided by the sum of all the matrix scores (total matrix score) to come up with the adjusted weight. The adjusted weight is in turn multiplied by the recreation activity's relative importance value to find relative weight. Step Nine (Specification of LE Factor Framework and Point Distribution) requires that the committee study carefully each recreational activity/LE factor relationship in order to set specific standards of performance and corresponding point values from which a site can be tested. Step Ten involves the selection of sites to be tested, Step Eleven with the collection of the site data needed (based on the framework set up in Step Nine) and Step Twelve with the determination of the specific score (determined by applying the LE factor framework to the actual site data accumulated). Step Thirteen is the final step in the land evaluation section and essentially consists of multiplying the specific score by the relative weight to produce the actual LE score for each recreational activity selected.

Step Fourteen is the first step of the site assessment section and it requires the committee to select the SA factors that they feel are appropriate and to assign a community assigned weight (value to community) to each. The community assigned weight for each of the SA factors are then divided by the sum of the community assigned weights and multiplied by ten to calculate the adjusted weight in Step Fifteen. In Step Sixteen and Seventeen the committee must do for the SA factors what they did for the LE factors in Steps Nine and Twelve to produce a SA factor framework and to produce the specific score for a particular site. The calculation of the SA score takes place in Step Eighteen and it is derived by multiplying the adjusted community weight of each SA factor by its corresponding specific score. These scores are then added together to get the total SA score. The last step, Step Nineteen, produces the total LESAR score by adding the LE score (from Step Thirteen) with the total SA score (from Step Eighteen).

1 STEP 1: FORMATION OF COMMITTEE

2 STEP 2: DISTRIBUTION OF LESAR INFORMATION, 1st MEETING

3 STEP 3: ADOPTION OF WRITTEN GOALS AND OBJECTIVES, 2nd MEETING

4 STEP 4: SELECTION OF RECREATION CLASSIFICATION

5 STEP 5: SELECTION OF RECREATIONAL ACTIVITIES/ASSIGNMENT OF IMPORTANCE VALUES

Table IV-2 Relative Importance Values

RECREATIONAL ACTIVITY	RELATIVE IMPORTANCE VALUE
JOGGING	5
SOCCER	5
WILDLIFE OBSERVATION	4
TENNIS	2
TOURING HISTORIC SITES	1

*NOTE: This assumes that, for this example, wildlife observation is twice as important as tennis; that jogging is 5 times as important as touring historic sites.

6

STEP 6: ASSIGNMENT OF INTERRELATIONSHIP VALUES TO CLASSIFICATION MATRIX

JOGGING	SOCCER	WILDLIFE OBSERV.	TENNIS	TOUR. HIST. SITES	CLASSIFICATION MATRIX
2	0	3	0	1	LANDFORM
1	1	1	1	0	ELEVATION
0	0	1	0	0	HAZARD POTENTIAL
0	2	0	0	0	SOILS
1	0	3	0	1	WATER
1	3	1	3	1	SOLAR ORIENTATION
3*	3	1	3	2	SLOPE
0	0	0	0	1	ENERGY RESOURCES
2	2	3	2	1	POLLUTION
1	0	3	0	1	FLORA DIVERSITY
1	0	3	0	1	FAUNA DIVERSITY
2	0	2	1	2	VEGETATIVE PATTERN
0	0	3	0	2	IMPACT OF HUNTING
0	0	3	0	0	IMPACT OF LAND USE CHANGE
2	0	3	0	2	POTENTIAL AS WILDLIFE CORRIDOR
0	0	3	0	0	WILDLIFE MAKE-UP
0	0	3	0	1	VEGETATIVE MAKE-UP
2	0	1	0	3	HISTORIC UNIQUENESS
0	0	0	0	3	ARCHEOLOGICAL IMPORTANCE
2	0	0	0	3	AESTHETIC IMPORTANCE
2	0	1	0	3	BOUNDARY ELEMENTS
3	0	3	0	3	RATE OF LAND USE CHANGE
1	0	2	0	3	LAND USE INTERACTION

*NOTE: COMMITTEE ASSIGNS A SCORE OF 3 TO SLOPE & JOGGING BECAUSE THE JOGGING PATH WILL BE USED PRIMARILY BY SENIOR CITIZENS.

7

STEP 7: TABULATION OF SCORES FROM LE MATRIX

Table IV-4 Lana Evaluation Matrix

LAND EVALUATION MATRIX

RECREATIONAL ACTIVITY	RELATIVE IMPORTANCE VALUE	LANDFORM	ELEVATION	HAZARD POTENTIAL	SOILS	WATER	SOLAR ORIENTATION	SLOPE	ENERGY RESOURCES	POLLUTION	FLORA DIVERSITY	FAUNA DIVERSITY	VEGETATIVE PATTERN	IMPACT OF HUNTING	IMPACT OF LAND USE CHANGE	POTENTIAL AS WILDLIFE CORRIDOR	WILDLIFE MAKE-UP	VEGETATIVE MAKE-UP	HISTORIC UNIQUENESS	ARCHEOLOGICAL IMPORTANCE	AESTHETIC IMPORTANCE	BOUNDARY ELEMENTS	RATE OF LAND USE CHANGE	LAND USE INTERACTION
JOGGING	5	2 / 10	1 / 5	0 / 0	0 / 0	1 / 5	1 / 5	3 / 15	0 / 0	2 / 10	1 / 5	1 / 5	2 / 10	0 / 0	0 / 0	2 / 10	0 / 0	0 / 0	2 / 10	0 / 0	2 / 10	2 / 10	3 / 15	1 / 15
SOCCER	5	0 / 0	1 / 5	0 / 0	2 / 10	0 / 0	3 / 15	3 / 15	0 / 0	2 / 10	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
WILDLIFE OBSERV.	4	3 / 12	1 / 4	1 / 4	0 / 0	3 / 12	1 / 4	1 / 4	0 / 0	3 / 12	3 / 12	3 / 12	2 / 8	3 / 12	3 / 12	3 / 12	3 / 12	3 / 12	1 / 4	0 / 0	0 / 0	1 / 4	3 / 12	2 / 8
TENNIS	2	0 / 0	1 / 2	0 / 0	0 / 0	0 / 0	3 / 6	3 / 6	0 / 0	2 / 4	0 / 0	0 / 0	1 / 2	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
TOUR. HIST. SITES	1	1 / 1	0 / 0	0 / 0	0 / 0	1 / 1	1 / 1	2 / 2	1 / 1	1 / 1	1 / 1	1 / 1	2 / 2	2 / 2	0 / 0	2 / 2	0 / 0	1 / 1	3 / 3	3 / 3	3 / 3	3 / 3	3 / 3	3 / 3
TOTAL		23	16	4	10	18	31	42	1	37	18	18	22	14	12	24	12	13	17	3	13	17	30	26

*NOTE: It is at this point that committee may eliminate some LE factors providing they showed little influence on the recreational activities chosen. See Asterisk.

MATRIX SCORE=REL. IMP. VAL X INTER-REL VALUE

INTER-REL. VALUE 3 / 12 MATRIX SCORE

8

STEP 8: CALCULATION OF LE RELATIVE WEIGHT

Table IV-5 Calculation of Jogging LE Relative Weight

FACTOR	MATRIX SCORE		TOT. MAT. SCORE	=	ADJUST. WEIGHT	X	REL. IMP. VALUE	=	REL. WT.
LANDFORM	10	DIV. BY	140	=	.0714	X	5	=	.3570
ELEVATION	5		140	=	.0357	X	5	=	.1785
SOILS	0							=	.0000
WATER	5		140	=	.0357	X	5	=	.1785
SOLAR	5		140	=	.0357	X	5	=	.1785
SLOPE	15		140	=	.1070	X	5	=	.5350
POLLUTION	10		140	=	.0714	X	5	=	.3570
FLORA	5		140	=	.0357	X	5	=	.1785
FAUNA	5		140	=	.0357	X	5	=	.1785
VEG. PATTERN	10		140	=	.0714	X	5	=	.3570
IMP. OF HUNT.	0							=	.0000
LAND USE CHNG.	0							=	.0000
W.L. CORRIDOR	10		140	=	.0714	X	5	=	.3570
W.L. MAKE-UP	0							=	.0000
VEG. MAKE-UP	0							=	.0000
HIST. UNIQUE.	10		140	=	.0714	X	5	=	.3570
AESTHETICS	10		140	=	.0714	X	5	=	.3570
BOUNDARY	10		140	=	.0714	X	5	=	.3570
RATE OF CHANGE	15		140	=	.1070	X	5	=	.5350
LU INTERACTION	15		140	=	.1070	X	5	=	.5350
	140 (TOT. MAT. SCORE)								5.0000

REL. WT.= Relative contribution of each factor to the total activity weight of 5.

9

STEP 9: SPECIFICATION OF LE FACTOR FRAMEWORK AND POINT DISTRIBUTION

EXAMPLE:

WILDLIFE OBSERVATION

Water: Availability of surface water on site.

Optimal Criteria- Site contains 10 or more surface water features.

LE factor framework for Water/W.L Observation:

10 points.......Site contains 10 or more surface water features.

OR

1 point for every surface water feature on site.

10

STEP 10: SELECTION OF SITES TO BE TESTED

11

STEP 11: COLLECTION OF LAND EVALUATION SITE DATA

12

STEP 12: DETERMINATION OF SPECIFIC SCORE

6
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 OR MORE SPECIAL LANDFORM FEATURES.
0 PTS - SITE CONTAINS NO SPECIAL LANDFORM FEATURES.
OR
1 PT. - FOR EVERY LANDFORM FEATURE PRESENT.

13

STEP 13: CALCULATON OF LE SCORE

Table IV-55 Calculation of Jogging LE Score.

FACTOR	SPEC. SCORE	X	REL. WT.	= LE PTS./ FACTOR	JOGGING LE SCORE
LANDFORM	6	X	.3570	= 2.142	
ELEVATION	7.2	X	.1785	= 1.285	
SOILS	0			= 0.000	
WATER	6	X	.1785	= 1.071	
SOLAR	10	X	.1785	= 1.785	
SLOPE	3.6	X	.5350	= 1.926	
POLLUTION	10	X	.3570	= 3.570	
FLORA	8	X	.1785	= 1.428	
FAUNA	10	X	.1785	= 1.785	
VEG. PATTERN	6.6	X	.3570	= 2.356	
HUNTING	0			= 0.000	
LAND USE CHNG.	0			= 0.000	
W.L. CORRIDOR	10	X	.3570	= 3.570	
W.L. MAKE-UP	0			= 0.000	
VEG. MAKE-UP	0			= 0.000	
HIST. UNIQ.	4	X	.3570	= 1.428	
AESTHETICS	0	X	.3570	= 1.428	
BOUNDARY	10	X	.3570	= 3.570	
RATE OF CHNG	7	X	.5350	= 3.754	
LU INTERACTION	2	X	.5350	= 1.070	
			5.0000	30.731/50.00	*18.00

14

STEP 14: SELECTION OF SA FACTORS AND ASSIGNMENT OF COMMUNITY ASSIGNED WEIGHT

FACTOR	COMMUNITY ASSIGNED WT.
LAND USE ADJACENT TO SITE	7
AVAILABILITY OF PUBLIC SERVICES	9
ENVIRONMENTAL FACTORS	8
DISTANCE TO URBAN AREA	7
TRANSPORTATION/PROXIMITY TO ARTERIALS	4
AVAILABILITY OF ZONED LAND FOR EXPANSION	6
DOLLAR COST OF LAND	10
SITE CAPABLE OF NETWORKING W/EXIST. RECR. AREAS	9

15

STEP 15: CALCULATION OF SA ADJUSTED COMMUNITY WEIGHT

Table IV-62 Adjusted Community Weights

FACTOR	COMMUNITY ASSGN. WT.		ADJUSTED WEIGHT	X	MAXIMUM # PTS	ADJ. WT.
1. COMP. W/COMPR. PLAN	7.0	DIV. BY 60 =	.1167	X	10	= 1.167
2. AVAIL OF PUB. SERV.	9.0	60 =	.1500	X	10	= 1.500
3. ENVIR. FACTORS	8.0	60 =	.1333	X	10	= 1.333
4. DISTANCE TO URB. ARE.	7.0	60 =	.1167	X	10	= 1.167
5. TRANSPORTATION	4.0	60 =	.0667	X	10	= .667
6. AVAIL. OF ZONED LND.	6.0	60 =	.1000	X	10	= 1.000
7. DOLLAR COST OF LAND	10.0	60 =	.1667	X	10	= 1.667
8. SITE NETWORKING	9.0	60 =	.1500	X	10	= 1.500
	60.0					10.00

16

STEP 16: SPECIFICATION OF SA FACTOR FRAMEWORK AND POINT DISTRIBUTION

SELECTED SITE ASSESSMENT FACTOR FRAMEWORK AND POINT DISTRIBUTION

1. COMPATIBILITY WITH COMPREHENSIVE PLAN

7
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - USE COMPATIBLE WITH COMPREHESIVE PLAN.
0 PTS - USE NOT COMPATIBLE WITH COMPREHENSIVE PLAN.

17

STEP 17: DETERMINATION OF SPECIFIC SCORE

SELECTED SITE ASSESSMENT FACTOR FRAMEWORK AND SPECIFIC SCORE

1. COMPATIBILITY WITH COMPREHENSIVE PLAN

7
------- (Community Assigned Wt.)
10
------- (Specific Score)

10 PTS - USE COMPATIBLE WITH COMPREHESIVE PLAN.
0 PTS - USE NOT COMPATIBLE WITH COMPREHENSIVE PLAN.

18

STEP 18: CALCULATION OF SA SCORE

Table IV-64 Calculation of SA Score

FACTOR	ADJ. COMM. WEIGHT	X	SPEC. SCORE	=	SA SCORE/FACTOR
1. COMP. W/COMP. PLAN	1.167	X	10	=	11.67
2. AVAIL. OF PUB. SER.	1.500	X	5	=	7.50
3. ENV. FACTORS	1.333	X	6.5	=	8.66
4. DIST. TO URBAN AREA	1.167	X	7.5	=	8.75
5. TRANSPORTATION	.6670	X	2.5	=	1.67
6. AVAIL. / ZONED LND	1.0000	X	6.4	=	6.40
7. DOLLAR COST OF LND	1.6670	X	5	=	8.34
8. SITE NETWORK POT.	1.5000	X	10	=	15.00
				TOTAL SA SCORE	67.99/100.00

19

STEP 19: CALCULATION OF LESAR SYSTEM SCORE

Table IV-65 Calculation of LESAR SCORE

TOTAL LAND EVALUATION SCORE		TOTAL SITE ASSESSMENT SCORE		TOTAL LESAR SCORE
72.36	+	67.99	=	140.35/200.00

CHAPTER IV

Introduction

The purpose of chapter four is to provide a detailed description, through the use of a hypothetical example, of the step-by-step process for implementing the recreational land evaluation and site assessment system and to identify potential problem areas for future investigation. The following example represents an attempt to show the steps to be followed and decisions to be made by a typical committee applying the LESAR system. In this example, the committee has chosen an Urban Park Classification as the type of recreational opportunity to be provided and have focused on the following specific recreational activities: jogging, soccer, wildlife observation, tennis and touring historic sites.

Urban Park Example

STEP 1: FORMATION OF COMMITTEE

Client: XXXXXXXXXXXXXXXXX Parks and Recreation Department

Committee: XXXXXXXXXXXXXX, Landscape Architect
XXXXXXXXXXXXXX, Director of Proposed Park
XXXXXXXXXXXXXX, Park Ranger
XXXXXXXXXXXXXX, City Planning Staff Member
XXXXXXXXXXXXXX, City Citizen

XXXXXXXXXXXXXX, County Citizen

XXXXXXXXXXXXXX, SCS Staff Member

The committee should be made up of individuals within the community who through either their educational, professional or historical background will have some relevant insight into the administration of such a land evaluation and site assessment for recreation system and at the same time will represent the needs and values of the community in which they reside.

Initially, the committee should decide their basic time frame for completion of the project as well as specifying the roles that each committee member is expected to play.

STEP 2: DISTRIBUTION OF LESAR INFORMATION, 1st MEETING

A. Distribution of background information such as what the system is designed to accomplish and under what situations it can be used.

B. Distribution of LESAR steps including all charts and matrices and an explanation of each.

C. Discussion of basic goals and objectives of the recreation area to begin at this first meeting.

After the above three items have been discussed thoroughly, the committee sets a date and time to meet and finalize the written goals and objectives (Step 3) and to begin LESAR system. Each committee member should take home the information received in Step 2 (1st Meeting) and familiarize himself or herself with them prior to the 2nd Meeting.

STEP 3: ADOPTION OF WRITTEN GOALS AND OBJECTIVES, 2nd MEETING

This meeting is to take place only after all committee members have had an opportunity to familiarize themselves with the information received in their previous meeting. This 2nd Meeting has 3 main purposes:

1. To choose a committee chairman who will lead group through the LESAR process.

2. Adoption of written goals and objectives. Broad goals and clearly defined objectives of this proposed park must be clearly stated and written down in order for all members to have a clear and homogeneous vision of what is to be accomplished.

3. To begin into the process of the LESAR system.

A. Land Evaluation Section (Steps 6-13)

B. Site Assessment Section (Steps 14-18)

C. Calculation of LESAR score (Step 19)

STEP 4: SELECTION OF RECREATION CLASSIFICATION

Based on the goals and objectives set forth in Step 3, the committee must now decide how the recreational area they envision would best be classified. Although this step has no direct influence over the outcome of this system, it's purpose is to provide some guidance and give each committee member with a clear and uniform picture of the proposed recreational area. The committee reviews the list of recreational area classifications (including appropriate definitions of each.) provided by the developers of the LESAR system and chooses the one they feel will accomodate their goals/objectives.

Table IV-1 Five Classes of Parks.

1. **REGIONAL DESTINATON PARK:** Size variation = 100-10,000 acres. Serves multi-governmental units and usually administered by counties or regional bodies. Many recreational activities are associated with experiencing the natural environment. Located for good access from major roads. Normally available for both day and overnight use. Some purposes served are preservation of portion of natural landscape, provision of extensive recreational facilities in urban areas, and service as greenbelts in metropolitan regions. Area of natural quality for nature-oriented outdoor recreation, such as viewing, and studying nature, wildlife habitat , conservation, swimming, picnicking, hiking, fishing, boating, camping, and trail uses. May include active play areas. Generally, 80% of the land is reserved for conservation and natural resource management with less than 20% used for recreation development. Desirable size requires sufficient area to encompass the resource to be preserved and managed. Desirable site characteristics include diverse or unique natural resources, such as lakes, streams, marshes, flora, fauna, or topography. Service area = from 0-4 hours driving time. (appx.). Commonly known as:

"REGIONAL PARK", "DESTINATION PARK", "DISTRICT PARK", "REGIONAL RESERVE"

2. **URBAN PARK:** Size variation = 50-2000 acres. Area of natural or ornamental quality for outdoor recreation, such as picnicking, boating, fishing, swimming, camping, and trail uses; may include play areas. Passive areas in landscaped or natural state located in or near urban area. May be planned for conversion to more intensive recreational uses when needed. May provide city or urban population with recreational uses/activities, provide for environmental quality, or act as a buffer. Main recreational purpose is to break-up atmosphere of congestion and provide aesthetic experience. May be used in conjunction with establishing a wildlife corridor or as a waterway protection area; may also be used as a transportation link for non-motorized means of transportation. Service area within or directly adjacent to urbanized area. Commonly known as:

"METROPOLITAN PARK", "LINKAGE PARK", "URBAN OPEN SPACE", "MAJOR PARK", "URBAN GREENSPACE", "CITY-WIDE PARK", "LINEAR PARK".

3. **NEIGHBORHOOD PARK:** 1-50 acres. Area of diverse environmental quality. May include areas suited for intense recreational facilities such as athletic complexes, large swimming pools. may be an area of natural quality for outdoor recreation, such as walking, viewing, sitting, picnicking. May be any combination of the above, depending upon site suitability and community need. May possess areas for intense recreational activities, such as field games, court games,

crafts, playground apparatus areas, skating and or wading pools. May also contain specialized facilities that serve a concentrated or limited population or specific group such at tots or senior citizens. Commonly known as:

"COMMUNITY PARK", "BLOCK PARK", "NEIGHBORHOOD PLAYGROUND", "PLAYLOT", "COMMUNITY RECREATION AREA", "VEST-POCKET PARK", "MINI-PARK", "TOT-LOT", "COMMUNITY PLAYFIELDS", "HOBBY PARK".

4. **SPECIAL USE PARK:** Size variable. Areas for specialized or single purpose recreational activities, such as golf courses, nature centers, marinas, zoos, conservatories, arboreta, display gardens, arenas, outdoor theaters, gun ranges, or downhill ski areas, or areas that preserve, maintain, and interpret buildings, sites, and objects of archeological significance. Also plazas or squares in or near commercial centers, boulevards, or parkways. Commonly known as:

"HISTORIC PARK", "INTERPRETIVE PARK", "CULTURAL PARK", "ARBORETUM", "ZOO", "THEME PARK".

5. **PRIMITIVE PARK:** Size variable but usually over 500 acres. Protection and management of the natural environment with recreation use as a secondary objective. Conservation and wildlife areas serve to protect, preserve, and promote flora and fauna and their habitat. Characterized by large wilderness areas, free of development, environmental intrusions or encroachments. Used as wildlife corridors, floodplain protection areas and unique or precious resource protection. Commonly known as:

"FOREST PRESERVE", "NATURE PARK", "OPEN-SPACE PRESERVE", "PRIMITIVE PARK", "WILDLIFE PRESERVE", "WILDERNESS AREA".

STEP 5: SELECTION OF RECREATIONAL ACTIVITIES/ASSIGNMENT OF IMPORTANCE VALUES

In this particular example, the committee has chosen the "Urban Park" classification. It is now up to the committee to determine the specific recreational activities to take place in its "Urban Park" and to define each to help in subsequent steps. This will assure that once again, all committee members will have the same view of each activity to take place. In addition, each of the recreational activities must be assigned a relative importance value. This value is representative of a recreation activity's importance as compared to the other activities chosen. The LESAR system is designed to keep a limit of not more than 5 recreational activities. The following table represents the committees' selections, relative values, and descriptions of each activity.

Table IV-2 Relative Importance Values

RECREATIONAL ACTIVITY	RELATIVE IMPORTANCE VALUE
JOGGING	5
SOCCER	5
WILDLIFE OBSERVATION	4
TENNIS	2
TOURING HISTORIC SITES	1

*NOTE: This assumes that, for this example, wildlife observation is twice as important as tennis; that jogging is 5 times as important as touring historic sites.

1. JOGGING: Provisions will be made to accomodate an asphalt path 6' wide for a total length of at least ten miles. In addition, there will be 5 miles of crushed stone paths created as alternatives to the 10 mile base course for a total of 15 miles of jogging trails. The 10 mile base course will remain relatively level (0-5% slope) and the alternative courses will vary with existing terrain. Only the 10 mile course will be lighted for night use.

2. SOCCER: There will be provisions made to accomodate 4 regulation soccer fields with permanent goals and nets. Groundcover will be natural turf and maintained by the park association. No grandstands will be provided yet there will be grass bank areas adjacent to fields for viewing purposes.

3. WILDLIFE OBSERVATION: An undisturbed area approximately 50 acres in size is needed as a type of wildlife sanctuary and where visitors can walk along existing terrain footpaths to view wildlife such as birds, small mammals, insects and deer. This 50 acres would benefit if it were connected to outer lying areas of the city whereby wildlife could migrate in and out of sanctuary as necessary. Surface water would also be an important asset in the 50 acres of land required. This area is to remain as undisturbed as possible.

4. TENNIS: Provisions will be made for approximately 24 regulation tennis courts and in most cases these will be fenced in pairs. In addition there will be one center court with grandstands for celebrity or tournament tennis. All courts will be lighted and of hard surface. Restroom facilities and concessions will be provided at the grand stand court area. Required amount of parking will also need to be provided.

5. TOURING HISTORIC SITES: The committee feels as if they are losing the character and history of their city. It is important to them that a site be chosen that is able to incorporate existing historic structures, battlegrounds, graveyards, archeologic sites or monuments into its urban park. A type of "strollway" (12' wide asphalt walkway) must be used to link these historic structures and other sites together so as to produce a historical experience for the visitor. The walkway must be of a slope not in excess of 8% and wide enough for service vehicles.

STEP 6: ASSIGNMENT OF INTERRELATIONSHIP VALUES TO CLASSIFICATION MATRIX

The recreational activities identified in Step 5 are now placed by the committee on the classification matrix. This matrix is designed as a framework by which the committee can assign numerical values to inter-relationships between LE factors and the recreational activities they have chosen for their urban park. The designated LE factor/recreational activity relationship's numerical value is then transfered to the corresponding LE factor/recreational activity relationship in the Land Evaluation Matrix.

The Classification Matrix classifies the inter-relationship between the recreational activity and the LE factor's influence on them by the following point distribution method:

NO INFLUENCE ON-------- 0 POINTS

LITTLE INFLUENCE ON---- 1 POINT

MODERATE INFLUENCE ON-- 2 POINTS

HIGH INFLUENCE ON------ 3 POINTS

Table IV-3 Inter-Relationship Values (assigned by comm.)

COMMITTEE SELECTED RECREATIONAL ACTIVITY: JOGGING	SOCCER	WILDLIFE OBSERV.	TENNIS	TOUR. HIST. SITES	CLASSIFICATION MATRIX
2	0	3	0	1	LANDFORM
1	1	1	1	0	ELEVATION
0	0	1	0	0	HAZARD POTENTIAL
0	2	0	0	0	SOILS
1	0	3	0	1	WATER
1	3	1	3	1	SOLAR ORIENTATION
3*	3	1	3	2	SLOPE
0	0	0	0	1	ENERGY RESOURCES
2	2	3	2	1	POLLUTION
1	0	3	0	1	FLORA DIVERSITY
1	0	3	0	1	FAUNA DIVERSITY
2	0	2	1	2	VEGETATIVE PATTERN
0	0	3	0	2	IMPACT OF HUNTING
0	0	3	0	0	IMPACT OF LAND USE CHANGE
2	0	3	0	2	POTENTIAL AS WILDLIFE CORRIDOR
0	0	3	0	0	WILDLIFE MAKE-UP
0	0	3	0	1	VEGETATIVE MAKE-UP
2	0	1	0	3	HISTORIC UNIQUENESS
0	0	0	0	3	ARCHEOLOGICAL IMPORTANCE
2	0	0	0	3	AESTHETIC IMPORTANCE
2	0	1	0	3	BOUNDARY ELEMENTS
3	0	3	0	3	RATE OF LAND USE CHANGE
1	0	2	0	3	LAND USE INTERACTION

*NOTE: COMMITTEE ASSIGNS A SCORE OF 3 TO SLOPE, JOGGING BECAUSE THE JOGGING PATH WILL BE USED PRIMARILY BY SENIOR CITIZENS.

STEP 7: TABULATION OF SCORES FROM LE MATRIX

After the LE factor/recreational activity interrelationship values have been transfered to the LE Matrix, each recreational activity's relative importance value (from Step 5) is then multiplied by each LE factor interrelationship value and this number is entered into the lower half of the relationship box. The total for each LE factor is the sum of the matrix scores and represents the relative importance of each factor. The total for each activity (for this particular example) are shown in the tables in Step 8.

Table IV-4 Land Evaluation Matrix

LAND EVALUATION MATRIX

RECREATIONAL ACTIVITY	RELATIVE IMPORTANCE VALUE	LANDFORM	ELEVATION	HAZARD POTENTIAL	SOILS	WATER	SOLAR ORIENTATION	SLOPE	ENERGY RESOURCES	POLLUTION	FLORA DIVERSITY	FAUNA DIVERSITY
JOGGING	5	2/10	1/5	0/0	0/0	1/5	1/5	3/15	0/0	2/10	1/5	1/5
SOCCER	5	0/0	1/5	0/0	2/[illegible]	0/0	3/15	3/15	0/0	2/10	0/0	0/0
WILDLIFE OBSERV.	4	3/12	1/4	1/4	0/0	3/12	1/4	1/4	0/0	3/12	3/12	3/12
TENNIS	2	0/0	1/2	0/0	0/0	0/0	3/6	3/6	0/0	2/4	0/0	0/0
TOUR. HIST. SITES	1	1/1	0/0	0/0	0/0	1/1	1/1	2/2	1/1	1/1	1/1	1/1
TOTAL		23	16	4*	10	18	31	42	1*	37	18	18

RECREATIONAL ACTIVITY	VEGETATIVE PATTERN	IMPACT OF HUNTING	IMPACT OF LAND CHANGE	POTENTIAL AS WILDLIFE CORRIDOR	WILDLIFE MAKE-UP	VEGETATIVE MAKE-UP	HISTORIC UNIQUENESS	ARCHEOLOGICAL IMPORTANCE	AESTHETIC IMPORTANCE	BOUNDARY ELEMENTS	RATE OF LAND USE CHANGE	LAND USE INTERACTION
JOGGING	2/10	0/0	0/0	2/10	0/0	0/0	2/10	0/0	2/10	2/10	3/15	1/15
SOCCER	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
WILDLIFE OBSERV.	2/8	3/12	3/12	3/12	3/12	3/12	1/4	0/0	0/0	1/4	3/12	2/8
TENNIS	1/2	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
TOUR. HIST. SITES	2/2	2/2	0/0	2/2	0/0	1/1	3/3	3/3	3/3	3/3	3/3	3/3
TOTAL	22	14	12	24	12	13	17	3*	13	17	30	26

*NOTE: It is at this point that committee may eliminate some LE factors providing they showed little influence on the recreational activities chosen. See Asterisk.

MATRIX SCORE=REL. IMP. VAL X INTER-REL VALUE

INTER-REL. VALUE: 3 — MATRIX SCORE: 12

STEP 8: CALCULATION OF LE RELATIVE WEIGHT

The committee must now tabulate the relative weight of each LE factor/recreational activity interrelationship. The Relative Weight is the value of a particular LE factor for a specific recreational use (expressed as a percentage of the relative importance value for that specific recreational use) as compared to all other factors for the same recreational activity. (RW= relative contribution of each factor to total activity weight of 5.) To calculate the relative weight of each relationship, the matrix score (score in 2nd half of box in LE Matrix) must now be compared to the other matrix scores for each recreational activity chosen as shown in the following tables:

Table IV-5 Calculation of Jogging LE Relative Weight

FACTOR	MATRIX SCORE		TOT. MAT. SCORE=		ADJUST. WEIGHT	X	REL. IMP. VALUE		REL. WT.
LANDFORM	10	DIV. BY	140	=	.0714	X	5	=	.3570
ELEVATION	5		140	=	.0357	X	5	=	.1785
SOILS	0							=	.0000
WATER	5		140	=	.0357	X	5	=	.1785
SOLAR	5		140	=	.0357	X	5	=	.1785
SLOPE	15		140	=	.1070	X	5	=	.5350
POLLUTION	10		140	=	.0714	X	5	=	.3570
FLORA	5		140	=	.0357	X	5	=	.1785
FAUNA	5		140	=	.0357	X	5	=	.1785
VEG. PATTERN	10		140	=	.0714	X	5	=	.3570
IMP. OF HUNT.	0							=	.0000
LAND USE CHNG.	0							=	.0000
W.L. CORRIDOR	10		140	=	.0714	X	5	=	.3570
W.L. MAKE-UP	0							=	.0000
VEG. MAKE-UP	0							=	.0000
HIST. UNIQUE.	10		140	=	.0714	X	5	=	.3570
AESTHETICS	10		140	=	.0714	X	5	=	.3570
BOUNDARY	10		140	=	.0714	X	5	=	.3570
RATE OF CHANGE	15		140	=	.1070	X	5	=	.5350
LU INTERACTION	15		140	=	.1070	X	5	=	.5350
	140 (TOT. MAT. SCORE)								5.0000

REL. WT.= Relative contribution of each factor to the total activity weight of 5.

Table IV-6 Calculation of Soccer LE Relative Weight

FACTOR	MATRIX SCORE		TOT. MAT. SCORE=		ADJUST. WEIGHT	X	REL. IMP. VALUE	= REL. WT.
LANDFORM	0	DIV. BY	55	=	.0000	X	5	= .0000
ELEVATION	5		55	=	.0910	X	5	= .4550
SOILS	10		55	=	.1820	X	5	= .9100
WATER	0							= .0000
SOLAR	15		55	=	.2730	X	5	=1.3650
SLOPE	15		55	=	.2730	X	5	=1.3650
POLLUTION	10		55	=	.1820	X	5	= .9100
FLORA	0							= .0000
FAUNA	0							= .0000
VEG. PATTERN	0							= .0000
IMP. OF HUNT.	0							= .0000
LAND USE CHNG.	0							= .0000
W.L. CORRIDOR	0							= .0000
W.L. MAKE-UP	0							= .0000
VEG. MAKE-UP	0							= .0000
HIST. UNIQUE.	0							= .0000
AESTHETICS	0							= .0000
BOUNDARY	0							= .0000
RATE OF CHANGE	0							= .0000
LU INTERACTION	0							= .0000
	55							5.0000

Table IV-7 Calculation of Wildlife Observ. LE Relative Weight

FACTOR	MATRIX SCORE		TOT. MAT. SCORE=		ADJUST. WEIGHT	X	REL. IMP. VALUE	= REL. WT.
LANDFORM	12	DIV. BY	168	=	.0714	X	4	= .2856
ELEVATION	4		168	=	.0238	X	4	= .0952
SOILS	0							= .0000
WATER	12		168	=	.0714	X	4	= .2856
SOLAR	4		168	=	.0238	X	4	= .0952
SLOPE	4		168	=	.0238	X	4	= .0952
POLLUTION	12		168	=	.0714	X	4	= .2856
FLORA	12		168	=	.0714	X	4	= .2856
FAUNA	12		168	=	.0714	X	4	= .2856
VEG. PATTERN	8		168	=	.0476	X	4	= .1904
IMP. OF HUNT.	12		168	=	.0714	X	4	= .2856
LAND USE CHNG.	12		168	=	.0714	X	4	= .2856
W.L. CORRIDOR	12		168	=	.0714	X	4	= .2856
W.L. MAKE-UP	12		168	=	.0714	X	4	= .2856
VEG. MAKE-UP	12		168	=	.0714	X	4	= .2856
HIST. UNIQUE.	4		168	=	.0238	X	4	= .0952
AESTHETICS	0							= .0000
BOUNDARY	4		168	=	.0238	X	4	= .0952
RATE OF CHANGE	12		168	=	.0714	X	4	= .2856
LU INTERACTION	8		168	=	.0476	X	4	= .1904
	168							4.0000

Table IV-8 Calculation of Tennis LE Relative Weight

FACTOR	MATRIX SCORE		TOT. MAT. SCORE=	ADJUST. WEIGHT	X	REL. IMP. VALUE	= REL. WT.
LANDFORM	0	DIV. BY	20 =				= .0000
ELEVATION	2		20 =	.1000	X	2	= .2000
SOILS	0						= .0000
WATER	0						= .0000
SOLAR	6		20 =	.3000	X	2	= .6000
SLOPE	6		20 =	.3000	X	2	= .6000
POLLUTION	4		20 =	.2000	X	2	= .4000
FLORA	0						= .0000
FAUNA	0						= .0000
VEG. PATTERN	2		20 =	.1000	X	2	= .0000
IMP. OF HUNT.	0						= .0000
LAND USE CHNG.	0						= .0000
W.L. CORRIDOR	0						= .0000
W.L. MAKE-UP	0						= .0000
VEG. MAKE-UP	0						= .0000
HIST. UNIQUE.	0						= .0000
AESTHETICS	0						= .0000
BOUNDARY	0						= .0000
RATE OF CHANGE	0						= .0000
LU INTERACTION	0						= .0000
	20						2.0000

Table IV-9 Calculation of Tour. Hist. Sites LE Relative Weight

FACTOR	MATRIX SCORE		TOT. MAT. SCORE=	ADJUST. WEIGHT	X	REL. IMP. VALUE	= REL. WT.
LANDFORM	1	DIV. BY	30 =	.0333	X	1	= .0333
ELEVATION	0						= .0000
SOILS	0						= .0000
WATER	1		30 =	.0333	X	1	= .0333
SOLAR	1		30 =	.0333	X	1	= .0333
SLOPE	2		30 =	.0666	X	1	= .0666
POLLUTION	1		30 =	.0333	X	1	= .0333
FLORA	1		30 =	.0333	X	1	= .0333
FAUNA	1		30 =	.0333	X	1	= .0333
VEG. PATTERN	2		30 =	.0666	X	1	= .0666
IMP. OF HUNT.	2		30 =	.0666	X	1	= .0666
LAND USE CHNG.	0						= .0000
W.L. CORRIDOR	2		30 =	.0666	X	1	= .0666
W.L. MAKE-UP	0						= .0000
VEG. MAKE-UP	1		30 =	.0333	X	1	= .0333
HIST. UNIQUE.	3		30 =	.1000	X	1	= .1000
AESTHETICS	3		30 =	.1000	X	1	= .1000
BOUNDARY	3		30 =	.1000	X	1	= .1000
RATE OF CHANGE	3		30 =	.1000	X	1	= .1000
LU INTERACTION	3		30 =	.1000	X	1	= .1000
	30						1.0000

STEP 9: SPECIFICATION OF LE FACTOR FRAMEWORK AND POINT DISTRIBUTION

The purpose of this step is to set up the criteria (LE factor framework) by which a site can be tested for a particular LE factor/recreational activity relationship and to assign points to this LE factor framework so that the site to be tested can be scored. It is important that prior to setting up the LE factor framework, the committee has first determined optimal criteria for each LE factor/recreational activity relationship as shown in the example below:

EXAMPLE:

WILDLIFE OBSERVATION

Water: Availability of surface water on site.

Optimal Criteria- Site contains 10 or more surface water features.

LE factor framework for Water/W.L Observation:

10 points.......Site contains 10 or more surface water features.

OR

1 point for every surface water feature on site.

Tables IV-10 to IV-14 represent the committee's optimal criteria for each LE factor/recreational activity relationship and specification of LE factor framework and point distribution.

Table IV-10 Optimal Criteria for Jogging (as decided by committee)

FACTORS	OPTIMAL CRITERIA
1. LANDFORM......	Site contains 10 or more special landform features.
2. ELEVATION.....	50% of site not to exceed 3000' elevation.
3. SOILS.........	NA
4. WATER.........	Site contains 5 or more surface water features.
5. SOLAR.........	>50% of site in southern exposure.
6. SLOPE.........	50% or more of site with a maximum slope of 5%.
7. POLLUTION.....	No pollution on site.
8. FLORA.........	Site possesses 10 or more species of hardwood trees.
9. FAUNA.........	Site possesses 10 or more species of birds.
10. VEG. PATTERN..	50% of site composed of hardwood forests and/or pasture.
11. IMP. OF HUNT..	NA
12. L.U. CHNG.....	No adjacent land use change expected within 20 years.
13. W.L. CORR.....	NA
14. W.L. MAKE-UP..	NA
15. VEG. MAKE-UP..	NA
16. HIST. UNIQUE..	Site contains 10 or more intact structures of hist. import.
17. AESTHETICS....	Site contains one or more battlefields or cemeteries.
18. BOUNDARY ELE..	Site contains one or more historic boundary elements.
19. RT of LU CHNG.	50% or > of existing without man-made interuption.
20. L.U. INTER....	50% or > of existing historical remnants interact w/adj. LU

Table IV-11 Optimal Criteria for Soccer (as decided by committee)

FACTORS	OPTIMAL CRITERIA
1. LANDFORM......	NA
2. ELEVATION.....	50% of site not to exceed 3000' elevation.
3. SOILS.........	10 acres of sandy loam soil on 0-2% slope.
4. WATER.........	NA
5. SOLAR.........	> 50% of site in southern exposure.
6. SLOPE.........	Site contains 10 acres or more of land with 0-2% slope.
7. POLLUTION.....	No pollution on site.
8. FLORA.........	NA
9. FAUNA.........	NA
10. VEG. PATTERN..	NA
11. IMP. OF HUNT..	NA
12. L.U. CHNG.....	NA
13. W.L. CORR.....	NA
14. W.L. MAKE-UP..	NA
15. VEG. MAKE-UP..	NA
16. HIST. UNIQUE..	NA
17. AESTHETICS....	NA
18. BOUNDARY ELE..	NA
19. RT OF LU CHNG.	NA
20. L.U. INTER....	NA

Table IV-12 Optimal Criteria for Wildlife Observation

FACTORS	OPTIMAL CRITERIA
1. LANDFORM......	Site contains 10 or more special landform features.
2. ELEVATION.....	Site has an elevation range of 1000' or more.
3. SOILS.........	NA
4. WATER.........	Site contains 10 or more surface water features.
5. SOLAR.........	Site has all eight solar orientations.
6. SLOPE.........	25% or more of site with slope > 25%.
7. POLLUTION.....	No pollution on site.
8. FLORA.........	Site contains 10 or more species of edible nut trees on site.
9. FAUNA.........	Site contains 100 or more species of wildlife.
10. VEG. PATTERN..	50% of site composed of hardwood forests/pasture.
11. IMP. OF HUNT..	No hunting allowed within 10 miles.
12. L.U. CHNG.....	No adj. LU change or interuption expected within 20 yr.
13. W.L. CORR.....	Animals able to migrate to and from exist. adj. W.L. Corr.
14. W.L. MAKE-UP..	Red tail hawks presently nesting on site.
15. VEG. MAKE-UP..	One or more native VA pine stands present on site.
16. HIST. UNIQUE..	Site contains 10 or more intact historical structures.
17. AESTHETICS....	NA
18. BOUNDARY ELE..	Site contains one or more historic boundary elements.
19. RT OF LU CHNG.	90-100% of site existing without man-made interuption.
20. L.U. INTER....	50% or > of existing historical remnants already interact.

Table IV-13 Optimal Criteria for Tennis (as decided by committee)

FACTORS	OPTIMAL CRITERIA
1. LANDFORM......	NA
2. ELEVATION.....	50% of site not to exceed 3000' elevation.
3. SOILS.........	NA
4. WATER.........	NA
5. SOLAR.........	> 50% of site in southern exposure.
6. SLOPE.........	Site contains 10 acres or > of land w/slope 0-2%.
7. POLLUTION.....	No pollution on site.
8. FLORA.........	NA
9. FAUNA.........	NA
10. VEG. PATTERN..	10 acres of site w/slope of 0-2% covered w/ mature evergrns.
11. IMP. OF HUNT..	NA
12. L.U. CHNG.....	NA
13. W.L. CORR.....	NA
14. W.L. MAKE-UP..	NA
15. VEG. MAKE-UP..	NA
16. HIST. UNIQUE..	NA
17. AESTHETICS....	NA
18. BOUNDARY ELE..	NA
19. RT OF LU CHNG.	NA
20. L.U. INTER....	NA

Table IV-14 Optimal Criteria for Tour. Hist. Sites

FACTORS	OPTIMAL CRITERIA
1. LANDFORM......	Site contains one or more special landform features that interact with historical features on site.
2. ELEVATION.....	NA
3. SOILS.........	NA
4. WATER.........	Site contains on or more surface water features.
5. SOLAR.........	> 50% of hist. remnant area acreage in southern exposure.
6. SLOPE.........	50% or more of hist. remnant area with max. slope of 8%.
7. POLLUTION.....	No pollution on site.
8. FLORA.........	Site possesses 10 or more species of hardwoods.
9. FAUNA.........	Site possesses 10 or more native mammals.
10. VEG. PATTERN..	50% of site composed of hardwoods or pasture.
11. IMP. OF HUNT..	No hunting allowed within 10 miles of any hist. structure.
12. L.U. CHNG.....	NA
13. W.L. CORR.....	Animals able to migrate from hist. rem. area to existing adjacent wildlife corridor.
14. W.L. MAKE-UP..	NA
15. VEG. MAKE-UP..	10 or more native trees or shrubs exist. on site.
16. HIST. UNIQUE..	Site contains 10 or more intact historic structures.
17. AESTHETICS....	Site contains one or more cemeteries.
18. BOUNDARY ELE..	Site contains one or more boundary elements.
19. RT OF LU CHNG.	No man-made intrusions on historic site.
20. L.U. INTER....	Entire historic site interacts with adj. land uses.

After the LE factor Optimal Criteria for each recreational activity has been selected the next step is to set up a framework for each LE factor/recreational activity relationship from which a particular site can score points. It is imperative that the committee be very specific with regards to setting up these frameworks and in addition that the committee makes sure that the scales represent true values as much as possible. It is important also that the committee recognize that there may be cases whereby there must be certain levels or quantities(thresholds) which must be achieved within a point range before any points would be awarded. (See Table IV-15 and Appendix II).

Table IV-15 Landform(abiotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING..........POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 OR MORE SPECIAL LANDFORM FEATURES.
0 PTS - SITE CONTAINS NO SPECIAL LANDFORM FEATURES.
OR
1 PT. - FOR EVERY LANDFORM FEATURE PRESENT.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 OR MORE SPECIAL LANDFORM FEATURES.
0 PTS - SITE CONTAINS NO SPECIAL LANDFORM FEATURES.
OR
1 PT. - FOR EVERY LANDFORM FEATURE PRESENT.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - SITE CONTAINS A LANDFORM FEATURE THAT DIRECTLY INTERACTS WITH A HISTORIC FEATURE.
0 PTS - SITE CONTAINS NO LANDFORM FEATURES THAT DIRECTLY INTERACT WITH A HISTORIC FEATURE.

* Table IV-15 is only one of twenty framework tables. Tables IV 16-34 can be found in Appendix I.

STEP 10: SELECTION OF SITES TO BE TESTED

Sites are to be tested individually and by using the same recreational activities and LE/SA factors. It is important that the process and all the criteria within, remain identical when applying this system to different sites.

STEP 11: COLLECTION OF LAND EVALUATION SITE DATA

Land Evalution site data to be collected will be determined by the LE factors shown as applicable by the LE Matrix and more specifically by the framework of each LE factor created in Step 9.

STEP 12: DETERMINATION OF SPECIFIC SCORE

The Specific Score is determined by applying the LE factor framework specified in Step 9 to the actual data accumulated in Step 11. The committee has chosen a site to be tested and the LE factor framework has been applied to the site data collected with the results given in Tables IV-35 to IV-54 (for Tables IV 36-54, see AppendixII).

Table IV-35 Landform(abiotic) Framework for Select. Recr. Act.

```
   6
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SPECIAL
                           LANDFORM FEATURES.
                   0 PTS - SITE CONTAINS NO SPECIAL LANDFORM
                           FEATURES.
                           OR
                   1 PT. - FOR EVERY LANDFORM FEATURE PRESENT.

   6
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SPECIAL
                           LANDFORM FEATURES.
                   0 PTS - SITE CONTAINS NO SPECIAL LANDFORM
                           FEATURES.
                           OR
                   1 PT. - FOR EVERY LANDFORM FEATURE PRESENT.

   10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                  10 PTS - SITE CONTAINS A LANDFORM FEATURE
                           THAT DIRECTLY INTERACTS WITH A
                           HISTORIC FEATURE.
                   0 PTS - SITE CONTAINS NO LANDFORM FEATURES
                           THAT DIRECTLY INTERACT WITH A
                           HISTORIC FEATURE.
```

STEP 13: CALCULATON OF LE SCORE

To calculate the LE score for each recreational activity selected, the specific score (from Step Twelve) is multiplied by the relative weight (from Step Eight) to produce the amount of LE points/factor. The LE points/factor are then totaled (ie. 30.731) and shown as a ratio with the total LE points/factor possible (ie. specific score(10) X relative weight(5)= 50). The total LE points/factor possible for each recreational activity chosen are then added together as shown below so that each recreational activity's LE points/factor total can be normalized to 100 (the total number of LE points possible).

```
Jogging-----50  LE points/factor possible
Soccer------50       "             "
W.L. Obs.---40       "             "
Tennis------20       "             "
Tour. His.--10       "             "
          -----------
           170  Total LE points/factor possible.
```

$$30.731 \times \frac{100 \text{ (total LE points possible)}}{170 \text{ (total LE pts/factor possible)}} = 18.00$$

The following tables (IV-55 to IV-59) illustrate how the LE SCORE was determined for each recreational activity.

Table IV-55 Calculation of Jogging LE Score.

FACTOR	SPEC. SCORE	X	REL. WT.	= LE PTS./ FACTOR	JOGGING LE SCORE
LANDFORM	6	X	.3570	= 2.142	
ELEVATION	7.2	X	.1785	= 1.285	
SOILS	0			= 0.000	
WATER	6	X	.1785	= 1.071	
SOLAR	10	X	.1785	= 1.785	
SLOPE	3.6	X	.5350	= 1.926	
POLLUTION	10	X	.3570	= 3.570	
FLORA	8	X	.1785	= 1.428	
FAUNA	10	X	.1785	= 1.785	
VEG. PATTERN	6.6	X	.3570	= 2.356	
HUNTING	0			= 0.000	
LAND USE CHNG.	0			= 0.000	
W.L. CORRIDOR	10	X	.3570	= 3.570	
W.L. MAKE-UP	0			= 0.000	
VEG. MAKE-UP	0			= 0.000	
HIST. UNIQ.	4	X	.3570	= 1.428	
AESTHETICS	0	X	.3570	= 1.428	
BOUNDARY	10	X	.3570	= 3.570	
RATE OF CHNG	7	X	.5350	= 3.754	
LU INTERACTION	2	X	.5350	= 1.070	
			5.0000	30.731/50.00	*18.00

Table IV-56 Calculation of Soccer LE Score.

FACTOR	SPEC. SCORE	X	REL. WT.	= LE PTS./ FACTOR	SOCCER LE SCORE
LANDFORM	0			= 0.000	
ELEVATION	7.2	X	.4550	= 3.276	
SOILS	8	X	.9100	= 7.280	
WATER	0			= 0.000	
SOLAR	10	X	1.3650	=13.650	
SLOPE	10	X	1.3650	=13.650	
POLLUTION	10	X	.9100	= 9.100	
FLORA	0			= 0.000	
FAUNA	0			= 0.000	
VEG. PATTERN	0			= 0.000	
HUNTING	0			= 0.000	
LAND USE CHNG.	0			= 0.000	
W.L. CORRIDOR	0			= 0.000	
W.L. MAKE-UP	0			= 0.000	
VEG. MAKE-UP	0			= 0.000	
HIST. UNIQ.	0			= 0.000	
AESTHETICS	0			= 0.000	
BOUNDARY	0			= 0.000	
RATE OF CHNG	0			= 0.000	
LU INTERACTION	0			= 0.000	
			5.0000	46.956/50.00	*27.76

Table IV-57 Calculation of W.L. Observation LE Score.

FACTOR	SPEC. SCORE	X	REL. WT.	=	LE PTS./ FACTOR	W.L. OBS. LE SCORE
LANDFORM	6	X	.2856	=	1.714	
ELEVATION	3.3	X	.0952	=	.314	
SOILS	0			=	0.000	
WATER	3	X	.2856	=	.857	
SOLAR	4.5	X	.0952	=	.428	
SLOPE	9.6	X	.0952	=	.914	
POLLUTION	10	X	.2856	=	2.856	
FLORA	4	X	.2856	=	1.142	
FAUNA	8.5	X	.2856	=	2.428	
VEG. PATTERN	6.6	X	.1904	=	1.257	
HUNTING	2	X	.2856	=	.571	
LAND USE CHNG.	7.5	X	.2856	=	2.142	
W.L. CORRIDOR	10	X	.2856	=	2.856	
W.L. MAKE-UP	0			=	0.000	
VEG. MAKE-UP	0			=	0.000	
HIST. UNIQ.	4	X	.0952	=	.381	
AESTHETICS	0			=	0.000	
BOUNDARY	10	X	.0952	=	.952	
RATE OF CHNG	3.85	X	.2856	=	1.100	
LU INTERACTION	2	X	.1904	=	.381	
			------		-----	
			4.0000		20.293/40.00	*11.90

Table IV-58 Calculation of Tennis LE Score.

FACTOR	SPEC. SCORE	X	REL. WT.	=	LE PTS./ FACTOR	TENNIS LE SCORE
LANDFORM	0			=	0.000	
ELEVATION	7.2	X	.2000	=	1.440	
SOILS	0			=	0.000	
WATER	0			=	0.000	
SOLAR	10	X	.6000	=	6.000	
SLOPE	10	X	.6000	=	6.000	
POLLUTION	10	X	.4000	=	4.000	
FLORA	0			=	0.000	
FAUNA	0			=	0.000	
VEG. PATTERN	7	X	.2000	=	1.400	
HUNTING	0			=	0.000	
LAND USE CHNG.	0			=	0.000	
W.L. CORRIDOR	0			=	0.000	
W.L. MAKE-UP	0			=	0.000	
VEG. MAKE-UP	0			=	0.000	
HIST. UNIQ.	0			=	0.000	
AESTHETICS	0			=	0.000	
BOUNDARY	0			=	0.000	
RATE OF CHNG	0			=	0.000	
LU INTERACTION	0			=	0.000	
			------		-----	
			2.0000		18.84/20.00	*11.10

Table IV-59 Calculation of Tour. Hist. Sites LE Score.

FACTOR	SPEC. SCORE	X	REL. WT.	=	LE PTS./ FACTOR	T.H.S. LE SCORE
LANDFORM	10	X	.0333	=	.333	
ELEVATION	0			=	0.000	
SOILS	0			=	0.000	
WATER	10	X	.0333	=	.333	
SOLAR	9	X	.0333	=	.299	
SLOPE	8	X	.0666	=	.532	
POLLUTION	10	X	.0333	=	.333	
FLORA	8	X	.0333	=	.266	
FAUNA	10	X	.0333	=	.333	
VEG. PATTERN	6.6	X	.0666	=	.439	
HUNTING	2	X	.0666	=	.133	
LAND USE CHNG.	0			=	0.000	
W.L. CORRIDOR	10	X	.0666	=	.666	
W.L. MAKE-UP	0			=	0.000	
VEG. MAKE-UP	4	X	.0333	=	.133	
HIST. UNIQ.	4	X	.1000	=	.400	
AESTHETICS	0			=	0.000	
BOUNDARY	10	X	.1000	=	1.000	
RATE OF CHNG	10	X	.1000	=	1.000	
LU INTERACTION	0			=	0.000	
			1.0000		6.203/10.00	* 3.60

The final LE score table can be used in three basic ways. The first use is to provide a total LE score (based on a maximum of 100 points) that can be added to the total SA score in order to produce an overall LESAR score (with a maximum of 200 points). This LESAR score is then used to compare various sites (with the same recreational pursuits applied) to determine which site has the best opportunity for success based both on land evaluation and site assessment. Second, the total LE score can be compared site to site (ie. 72.36 vs 56.95 vs 84.30) should the weight of LE to SA need to be modified or altered for some reason. And lastly, the final LE score table may be used by comparing (on a site to site basis) LE scores by activity (ie. 18.0 vs 21.0 vs 16.0 for Jogging). This may allow the committee to determine more precisely the strong or weak point of a particular site with regards to specific recreational activities.

Table IV-60 Final LE Score.

FACTOR	POINTS SCORED	POINTS POSSIBLE	%	X 100 =	TOTAL LE
JOGGING	30.731	50.0	.18	X 100 =	18.00
SOCCER	46.956	50.0	.276	X 100 =	27.76
W.L. OBSER.	20.293	40.0	.119	X 100 =	11.90
TENNIS	18.840	20.0	.111	X 100 =	11.10
TOUR. HIST. SITES	6.203	10.0	.036	X 100 =	3.60

		TOTAL LE SCORE			72.36/100.00

STEP 14: SELECTION OF SA FACTORS AND ASSIGNMENT OF COMMUNITY ASSIGNED WEIGHT

The committee must now select from the list of SA factors provided by the LESAR developers, those site assessment factors they feel are important for the type of Urban Park they are proposing for their particular community. In addition, each SA factor must be given a community assigned weight (value representing what SA factors are most important to the community as compared to the other SA factors chosen) of between 1 and 10. It is important for the committee to understand that the SA differs from the LE in that the SA is assessing the value of the proposed recreational area as a whole with its surroundings while the LE evaluated components of the land for specific recreational uses. The following are examples of SA factors and corresponding community value scores chosen by the committee from the entire list of SA factors(in Appendix). Note that Specific Scores cannot be awarded until the actual site data is compared to the SA framework in Step 16.

Table IV-61 SA Factors Chosen by Committee

FACTOR	COMMUNITY ASSIGNED WT.
LAND USE ADJACENT TO SITE	7
AVAILABILITY OF PUBLIC SERVICES	9
ENVIRONMENTAL FACTORS	8
DISTANCE TO URBAN AREA	7
TRANSPORTATION/PROXIMITY TO ARTERIALS	4
AVAILABILITY OF ZONED LAND FOR EXPANSION	6
DOLLAR COST OF LAND	10
SITE CAPABLE OF NETWORKING W/EXIST. RECR. AREAS	9

*NOTE: Committee has given Environmental Factors, a community assigned weight of 8 and Transportation/Proximity to Arterials a community assigned weight of 4. This assumes that the committee feels that Environmental Factors are twice as important, in this case, than Transportation/Proximity to Arterials. Notice committee chose only 8 SA factors. Committee may also choose to add their own SA factor if one is not present that they feel is important for their specific needs.

STEP 15: CALCULATION OF SA ADJUSTED COMMUNITY WEIGHT

The committee must now tabulate the Adjusted Community Weight of each SA factor selected. SA Adjusted Community Weight is a SA factor's value based entirely upon its community value score (score given by the committee to each SA factor based upon their perception of what the community feels is of most importance) as compared to all the other SA factors selected.

Table IV-62 Adjusted Community Weights

FACTOR	COMMUNITY ASSGN. WT.		ADJUSTED WEIGHT	X	MAXIMUM # PTS	ADJ. WT.
1. COMP. W/COMPR. PLAN	7.0	DIV. BY 60 =	.1167	X	10	= 1.167
2. AVAIL OF PUB. SERV.	9.0	60 =	.1500	X	10	= 1.500
3. ENVIR. FACTORS	8.0	60 =	.1333	X	10	= 1.333
4. DISTANCE TO URB. ARE.	7.0	60 =	.1167	X	10	= 1.167
5. TRANSPORTATION	4.0	60 =	.0667	X	10	= .667
6. AVAIL. OF ZONED LND.	6.0	60 =	.1000	X	10	= 1.000
7. DOLLAR COST OF LAND	10.0	60 =	.1667	X	10	= 1.667
8. SITE NETWORKING	9.0	60 =	.1500	X	10	= 1.500
	60.0					10.00

STEP 16: SPECIFICATION OF SA FACTOR FRAMEWORK AND POINT DISTRIBUTION

As they did in Step 9, the committee must now specify the SA factor framework and assign points accordingly. Once again, it is important that the committee has first determined the optimal criteria for each SA factor. The following represents the committee's optimal criteria for each SA factor and specific SA factor framework and point distribution.

Table IV-63 SA Factor Optimal Criteria

FACTOR		OPTIMAL CRITERIA
COMPATIBILITY W/COMP PLAN	-	Compatible with Comprehensive Plan.
AVAIL. OF PUBLIC SERVICES	-	San. sewer and water on site.
ENVIRONMENTAL FACTORS	-	75% or more of site in floodplain.
DISTANCE TO URBAN AREA	-	Site totally within city limits.
TRANSPORTATION	-	Major public connector adj. to site.
AVAILABILITY OF ZONED LAND	-	100% of adj. land zoned appropriately.
DOLLAR COST OF LAND	-	Site available thru donation.
SITE NETWORK POTENTIAL	-	Site has potential to network.

SELECTED SITE ASSESSMENT FACTOR FRAMEWORK AND POINT DISTRIBUTION

1. COMPATIBILITY WITH COMPREHENSIVE PLAN

7
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - USE COMPATIBLE WITH COMPREHESIVE PLAN.
0 PTS - USE NOT COMPATIBLE WITH COMPREHENSIVE PLAN.

2. AVAILABILITY OF PUBLIC SERVICES

9
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - SAN. SEW. AND WATER ON SITE.
7.5 PTS - SAN. SEW. OR WATER ON SITE.
5 PTS - SAN. SEW. AND WATER ADJ. TO SITE.
2.5 PTS - SAN. SEW. OR WATER ADJ. TO SITE.
0 PTS - NO SAN. SEW. OR WATER AVAILABLE.

3. ENVIRONMENTAL FACTORS

8
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - 75% OR MORE OF SITE WITHIN 100 YR. FLOODPLAIN.
OR
.13 PT - FOR EVERY 1% PT OF SITE WITHIN 100 YR FLOODPLAIN.

4. DISTANCE TO URBAN AREA

7
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - SITE TOTALLY WITHIN CITY LIMITS.
7.5 PTS - SITE PARTIALLY WITHIN CITY BOUNDARY AND PARTIALLY WITHIN 1 MILE JURISDICTION BOUNDARY.
5 PTS - SITE TOTALLY WITHIN 1 MILE JURISDICTION BOUNDARY.
2.5 PTS - SITE PARTIALLY IN 1 MILE JURISIDICTION BOUNDARY AND PARTIALLY OUTSIDE 1 MILE JURISDICTION LINE.
0 PTS - SITE OUTSIDE 1 MILE JURISDICTION LINE.

5. TRANSPORTATION/PROXIMITY TO ARTERIALS

4
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - MAJOR PUBLIC COLLECTOR ADJ. TO SITE.
7.5 PTS - MINOR PUBLIC COLLECTOR ADJ. TO SITE.
5 PTS - PAVED PRIVATE ROAD ADJ. TO SITE.
2.5 PTS - GRAVEL PRIVATE ROAD ADJ. TO SITE.
0 PTS - NO ROADS ADJ. TO SITE.(EASEMENT REQ.)

6. AVAILABILITY OF ZONED LAND FOR EXPANSION

6
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - 100% OF ADJ. LAND ZONED APPROPRIATELY.
OR
.1 PT - FOR EVERY 1% PT OF ADJ. LAND ZONED APPR.

7. DOLLAR COST OF LAND

10
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - SITE AVAILABLE THRU DONATION.
0 PTS - SITE AVAILABLE AT A COST OF $500/AC OR MORE.
OR
.2 PTS - FOR EVERY $1/ACRE OF LAND.

8. SITE POTENTIAL TO NETWORK W/EXIST. RECREATIONAL AREAS

9
------- (Community Assigned Wt.)

------- (Specific Score)

10 PTS - SITE HAS POTENTIAL TO NETWORK.
0 PTS - SITE HAS NO POTENTIAL TO NETWORK.

STEP 17: DETERMINATION OF SPECIFIC SCORE

The Specific Score is determined by applying the SA factor framework specified in Step 16 to the actual site data accumulated.

SELECTED SITE ASSESSMENT FACTOR FRAMEWORK AND SPECIFIC SCORE

1. **COMPATIBILITY WITH COMPREHENSIVE PLAN**

7
——— (Community Assigned Wt.)
10
——— (Specific Score)

10 PTS - USE COMPATIBLE WITH COMPREHESIVE PLAN.
0 PTS - USE NOT COMPATIBLE WITH COMPREHENSIVE PLAN.

2. **AVAILABILITY OF PUBLIC SERVICES**

9
——— (Community Assigned Wt.)
5
——— (Specific Score)

10 PTS - SAN. SEW. AND WATER ON SITE.
7.5 PTS - SAN. SEW. OR WATER ON SITE.
5 PTS - SAN. SEW. AND WATER ADJ. TO SITE.
2.5 PTS - SAN. SEW. OR WATER ADJ. TO SITE.
0 PTS - NO SAN. SEW. OR WATER AVAILABLE.

3. **ENVIRONMENTAL FACTORS**

8
——— (Community Assigned Wt.)
6.5
——— (Specific Score)

10 PTS - 75% OR MORE OF SITE WITHIN 100 YR. FLOODPLAIN.
OR
.13 PT - FOR EVERY 1% PT OF SITE WITHIN 100 YR FLOODPLAIN.

4. **DISTANCE TO URBAN AREA**

7
——— (Community Assigned Wt.)
7.5
——— (Specific Score)

10 PTS - SITE TOTALLY WITHIN CITY LIMITS.
7.5 PTS - SITE PARTIALLY WITHIN CITY BOUNDARY AND PARTIALLY WITHIN 1 MILE JURISDICTION BOUNDARY.
5 PTS - SITE TOTALLY WITHIN 1 MILE JURISDICTION BOUNDARY.
2.5 PTS - SITE PARTIALLY IN 1 MILE JURISIDICTION BOUNDARY AND PARTIALLY OUTSIDE 1 MILE JURISDICTION LINE.
0 PTS - SITE OUTSIDE 1 MILE JURISDICTION LINE.

5. **TRANSPORTATION/PROXIMITY TO ARTERIALS**

4
——— (Community Assigned Wt.)
2.5
——— (Specific Score)

10 PTS - MAJOR PUBLIC COLLECTOR ADJ. TO SITE.
7.5 PTS - MINOR PUBLIC COLLECTOR ADJ. TO SITE.
5 PTS - PAVED PRIVATE ROAD ADJ. TO SITE.
2.5 PTS - GRAVEL PRIVATE ROAD ADJ. TO SITE.
0 PTS - NO ROADS ADJ. TO SITE.(EASEMENT REQ.)

6. **AVAILABILITY OF ZONED LAND FOR EXPANSION**

6
——— (Community Assigned Wt.)
6.4
——— (Specific Score)

10 PTS - 100% OF ADJ. LAND ZONED APPROPRIATELY.
OR
.1 PT - FOR EVERY 1% PT OF ADJ. LAND ZONED APPR.

7. **DOLLAR COST OF LAND**

10
——— (Community Assigned Wt.)
5
——— (Specific Score)

10 PTS - SITE AVAILABLE THRU DONATION.
0 PTS - SITE AVAILABLE AT A COST OF $500/AC OR MORE.
OR
.2 PTS - FOR EVERY $1/ACRE OF LAND.

8. **SITE POTENTIAL TO NETWORK W/EXIST. RECREATIONAL AREAS**

9
——— (Community Assigned Wt.)
10
——— (Specific Score)

10 PTS - SITE HAS POTENTIAL TO NETWORK.
0 PTS - SITE HAS NO POTENTIAL TO NETWORK.

STEP 18: CALCULATION OF SA SCORE

The SA score is calculated by multiplying the adjusted community weight (from Step Fifteen) by the specific score (from Step Seventeen) for each of the SA factors selected. The result is the SA score for a specific SA factor. Each factor's SA score is then added together to produce the total site assessment score for a specific site. The total SA score can have a maximum of 100 points which represents one-half of the total LESAR score. In addition, this SA score can also be compared on a site to site basis providing recreational activities, LE/SA factors, and weighting remain identical.

Table IV-64 Calculation of SA Score

FACTOR	ADJ. COMM. WEIGHT	X	SPEC. SCORE	=	SA SCORE/FACTOR
1. COMP. W/COMP. PLAN	1.167	X	10	=	11.67
2. AVAIL. OF PUB. SER.	1.500	X	5	=	7.50
3. ENV. FACTORS	1.333	X	6.5	=	8.66
4. DIST. TO URBAN AREA	1.167	X	7.5	=	8.75
5. TRANSPORTATION	.6670	X	2.5	=	1.67
6. AVAIL. / ZONED LND	1.0000	X	6.4	=	6.40
7. DOLLAR COST OF LND	1.6670	X	5	=	8.34
8. SITE NETWORK POT.	1.5000	X	10	=	15.00
		TOTAL SA SCORE			67.99/100.00

STEP 19: CALCULATION OF LESAR SYSTEM SCORE

A. Add LE and SA scores to obtain total site points.

B. Compare with other site scores.

C. Selection or rejection of sites.

LESAR SCORE

Table IV-65 Calculation of LESAR SCORE

TOTAL LAND EVALUATION SCORE		TOTAL SITE ASSESSMENT SCORE		TOTAL LESAR SCORE
72.36	+	67.99	=	140.35/200.00

CHAPTER V

Summary

In summary, this study was conceived because it was felt that there was a significant need to address the conflict between rampant urban development and its negative affect on land with true potential for quality recreational opportunities. The present conversion of prime recreational land to more intensive land uses has only emphasized the fact that it is imperative that communities address this issue. In addition, this will allow the opportunity for communities to assess the recreational needs of their community on a continual basis and plan accordingly to set aside those recreational sites that meet these needs prior to conversion of these sites to non-recreational uses.

This study began by asking the question "Is there a quantifiable way to identify and evaluate land, based on existing resources and associated site conditions, for recreational use?" Investigations were made into the framework of existing land evaluation methods and their respective criteria in an attempt to utilize these existing methods of land evaluation and site assessment as a foundation on which to build a new land evaluation and site assessment system specifically designed for recreation (LESAR). The forty LE and SA factors resulting from that investigation were used as the criteria for the new LESAR system. In addition, the SCS's LESA system was selected as the model framework on which to build because it proved to be quantifiable, flexible, comprehensive, adaptable, well documented, practical, clear and concise, and representative on a community to community basis.

Conclusions

It is difficult to draw conclusions concerning the success or failure of the new LESAR system simply because it has not been fully "tested". Yet the intention of this study was not to "test" but rather to show, through the use of a hypothetical example, that a new method of land evaluation and site assessment for recreation could indeed be developed. The ultimate success or failure of this system will hopefully be brought out through future application of the system. Although no direct conclusions are drawn concerning the success or failure of the LESAR system, it does seem to have accomplished the basic goals set forth at the beginning of this study.

Although no direct conclusions can be drawn until the system is fully tested, there have emerged a number of concerns which deserve to be mentioned at this time. First, the implementability/complexity of such a system is of concern. Although one of the major goals of this method was to keep the system as simple as possible for practical reasons, as the project progressed it became more and more apparent that the LESAR method would not be as simple as had first been expected. In addition, the amount of work (ie. decisions, assignment of values/standards, collection of data, etc.) required by the committee also increased and perhaps has become too complex for a committee.

Second, this method has combined land evaluation and site assessment factors in a very linear way. While this has been done to keep the process as simple as possible, it is not always representative of how factors actually inter-relate on any particular site. For example, steep slopes and unstable soils, although only minor in their effect when individually scored and added in this system, may in reality have a combined effect many times the simple addition of their individual scores. More study is needed to assess the implications of LE/SA factor inter-relationships on this process. In addition, this method makes no allowance for "red flagging" LE/SA factors that are either essential (ie. without them a particular recreational pursuit would not be possible) or prohibitive (ie.their existance on a particular site, makes the site totally unacceptable for a particular recreational pursuit). Suppose for instance, that the LESAR committee selects whitewater canoeing as one of their recreational activities. Although the site may contain an ideal river for whitewater canoeing, if the river is inaccessible due to slope or some other factor, this should halt the process of the LESAR system at this point (red-flagging). In order for this system to be as efficient and useful as possible, the idea of "red flagging" must also be studied further.

Lastly, for this system to become as trustworthy as possible in identifying the success or failure of certain tracts of land to support specific recreational uses, a sensitivity analysis must be performed to reveal how specific choices and/or value assignments influence the overall LESAR score. It is anticipated that this sensitivity analysis will shed light on areas of this system that require calibration and/or rethinking.

It is important to note at this time that the real purpose of this thesis was to develop a useful framework for the identification and evaluation of lands for recreational use. It is felt that this goal has been well accomplished. There now exists a framework for recreational land evaluation that may be applied as is or built upon as new information is accumulated and tested.

Recommendations and Implications

It is recommended that additional research be performed to evaluate the effectiveness of the LESAR system under a variety of situations. Further, future research will hopefully increase this model's usefulness by introducing other pertinent accessories to the model itself. Presumably, many questions remain unanswered about the LESAR system and this will allow the opportunity for additional research by others. Some questions that remain unanswered include:

1. How expensive would it be to apply this system under "normal situations"?

2. Does the system work better at any one particular scale?

3. When applied to an existing successful recreation area, do the results of the system reflect the actual success of the existing recreational area?

4. Is the system better suited for any particular recreational uses or is it suited to all uses equally?

5. Does the system speed up or slow down the normal review process?

6. Can this system be applied in parts or only as a complete unit?

7. Can this system be applied with only one planned recreational use in mind or is it only functional for multiple uses?

8. Can the system be streamlined to reduce complexity without sacrificing comprehensiveness?

It is anticipated that this LESAR system could potentially be used by landscape architects, planners, parks and recreation officials, developers and other related disciplines to begin to identify and protect those lands most appropriate for our recreational needs.

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APPENDIX I
TABLES FROM STEP NINE

Table IV-16 Elevation(abiotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR > OF SITE DOES NOT EXCEED 3000' ELEVATION.
OR
.2 PT - FOR EVERY 1 PERCENTAGE PT. NOT EXCEED. 3000' ELEVATION.

------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
10 PTS - 50% OR > OF SITE DOES NOT EXCEED 3000' ELEVATION.
OR
.2 PT - FOR EVERY 1 PERCENTAGE PT. NOT EXCEED. 3000' ELEVATION.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - SITE HAS AND ELEVATION RANGE OF 1000' OR MORE.
OR
.01 PT- FOR EVERY 1' OF ELEVATION RANGE.

------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
10 PTS - 50% OR > OF SITE DOES NOT EXCEED 3000' ELEVATION.
OR
.2 PT - FOR EVERY % PT OF SITE THAT DOES NOT EXCEED 3000' ELEVATION.

Table IV-17 Soils(abiotic) Framework for Select. Recr. Act.

SOCCER............	POINT RANGE= 0-10 PTS.	
	10 PTS -	10 OR MORE ACRES OF CONTIGUOUS SANDY LOAM SOIL (OR COMPARABLY DRAINING SOILS ON 0-2% SLOPE.
		OR
	1 PT. -	FOR EVERY ACRE OF SANDY LOAM SOIL ON 0-2% SLOPE.

Table IV-18 Water(abiotic) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING..........POINT RANGE= 0-10 PTS.
                 10 PTS - SITE CONTAINS 5 OR MORE SURFACE
                          WATER FEATURES.
                          OR
                  1 PT. - FOR EVERY SEPARATE SURFACE WATER
                          FEATURE PRESENT.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                 10 PTS - SITE CONTAINS 10 OR MORE SEPARATE
                          SURFACE WATER FEATURES.
                          OR
                  1 PT. - FOR EVERY SEPARATE SURFACE WATER
                          FEATURE PRESENT.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                 10 PTS - SITE CONTAINS ONE OR MORE SURFACE
                          WATER FEATURES THAT INTERACT WITH
                          HISTORIC REMNANTS.
                  0 PTS - SITE CONTAINS NO SURFACRME WATER
                          FEATURES THAT INTERACT WITH A
                          HISTORIC FEATURE.
```

Table IV-19 Solar(abiotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE IN SOUTHERN EXPOSURE. (OR ENOUGH FOR 4 FIELDS)

.2 PT - FOR EVERY 1% OF SITE IN S. EXPOSURE.

------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE IN SOUTHERN EXPOSURE.
OR
.2 PT - FOR EVERY 1% OF SITE IN S. EXPOSURE.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - SITE HAS ALL EIGHT SOLAR ORIENT. (N,NE,E,SE,S,SW,W,NW)
OR
1.5PT. - FOR EVERY ORIENTATION SITE CONTAINS.

------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE IN SOUTHERN EXPOSURE.
OR
.2 PT - FOR EVERY 1% OF SITE IN S. EXPOSURE.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - 50% OR MORE OF HISTORIC REMNANT AREA IN SOUTHERN EXPOSURE.
OR
.2 PT - FOR EVERY 1% PT OF HIST. REMNANT AREA ACREAGE IN S. EXPOSURE.

Table IV-20 Slope(abiotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE WITH 0-5% SLOPE.
OR
.2 PT - FOR EVERY 1% PT OF SITE W/0-5% SLOPE.

------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 ACRES OR MORE OF LAND W/0-2% SLOPE.
OR
1 PT. - FOR EVERY ONE ACRE OF SITE WITH SLOPE OF 0-2%.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - 25% OR MORE OF SITE WITH SLOPES > 25%
OR
.4 PT - FOR EVERY 1% PT OF SITE WITH SLOPE >

------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 ACRES OR MORE OF LAND WITH 0-2% SLOPE.
OR
1 PT. - FOR EVERY 1 ACRE OF SITE WITH SLOPE 0-2%.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - 50% OR MORE OF HISTORIC REMNANT AREA WITH A 0-8% SLOPE.
.2 PT - FOR EVERY 1% PT OF HIST. REMNANT WITH A 0-8% SLOPE.

Table IV-21 Pollution(abiotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0/10 PTS.
10 PTS - NO POLLUTION ON SITE
0 PTS - EVIDENCE OF POLLUTION ON SITE.

------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0/10 PTS.
10 PTS - NO POLLUTION ON SITE.
0 PTS - EVIDENCE OF POLLUTION ON SITE.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
10 PTS - NO POLLUTION ON SITE.
0 PTS - EVIDENCE OF POLLUTION ON SITE.

------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0/10 PTS.
10 PTS - NO POLLUTION ON SITE.
0 PTS - EVIDENCE OF POLLUTION ON SITE.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - NO POLLUTION ON SITE.
0 PTS - EVIDENCE OF POLLUTION ON SITE.

Table IV-22 Flora(biotic) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE POSSESSES 10 OR MORE SPECIES
                           OF HARDWOOD TREES.
                           OR
                   1 PT. - FOR EVERY SPECIES OF HARDWOOD TREES.


------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SPECIES
                           OF EDIBLE FRUIT TREES.
                           OR
                   1 PT. - FOR EVERY SPECIES OF FRUIT TREE PRESENT


------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE POSSESSES 10 OR MORE SPECIES
                            OF HARDWOOD TREES.
                    1 PT  - FOR EVERY SPECIES OF HARDWOOD TREE.
```

Table IV-23 Fauna(biotic) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SPECIES
                           OF WILD BIRDS.
                           OR
                   1 PT. - FOR EVERY SPECIES OF WILD BIRDS
                           PRESENT.


------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 100 OR MORE SPECIES
                           OF WILDLIFE.
                   .1 PT - FOR EVERY SPECIES OF WILDLIFE ON SITE.


------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE POSSESSES 10 OR MORE SPECIES
                            OF NATIVE MAMMALS.
                    1 PT  - FOR EVERY SPECIES OF NATIVE MAMMAL.
```

Table IV-24 Veg. Pattern(biotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE COMPOSED OF HARDWOOD FOREST AND PASTURE.
OR
.2 PT - FOR EVERY 1% PT OF SITE COMPRISED OF HARDWOOD FORESTS AND PASTURE.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE COMPOSED OF HARDWOOD FOREST AND PASTURE.
OR
.2 PT - FOR EVERY 1% PT OF SITE COMPRISED OF HARDWOOD FORESTS AND PASTURE.

------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
10 PTS - 10 ACRES OF SITE WITH SLOPE OF 0-2% SLOPE COVERED WITH EVERGREENS.
OR
1 PT. - ONE PT. FOR EVERY ACRE OF SITE WITH SLOPE OF 0-2% AND EVERGREENS.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE COMPRISED OF HARDWOOD FOREST AND PASTURE.
OR
.2 PT - FOR EVERY 1% PT OF SITE COMPRISED OF HARDWOOD FOREST AND PASTURE.

Table IV-25 Hunting(biotic) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - NO HUNTING ALLOWED WITHIN 10 MILES.
                           OR
                   1 PT. - FOR EVERY ONE MILE AWAY FROM SITE
                           HUNTING IS ALLOWED.


------- (SPECIFIC SCORE)

TOUR. HIST. SITE..POINT RANGE= 0-10 PTS.
                  10 PTS - NO HUNTING ALLOWED WITHIN 10 MILES.
                           OR
                   1 PT  - FOR EVERY ON MILE AWAY FROM SITE
                           HUNTING IS ALLOWED.
```

Table IV-26 LU Change(biotic) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - NO LAND USE CHANGES CURRENTLY TAKING
                           PLACE ADJ. TO SITE.
                           OR
                   .1 PT - FOR EVERY 1% PT NOT CURRENTLY UNDER-
                           GOING LAND USE CHANGE.


------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - NO LAND USE CHANGES CURRENTLY TAKING
                           PLACE ADJ. TO SITE.
                           OR
                   .1 PT - FOR EVERY 1% PT NOT CURRENTLY UNDER-
                           GOING LAND USE CHANGE.
```

Table IV-27 W.L. Corr.(biotic) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0/10 PTS.
                  10 PTS - ANIMALS ABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.
                   0 PTS - ANIMALS UNABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.


------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
                  10 PTS - ANIMALS ABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.
                   0 PTS - ANIMALS UNABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.


------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - ANIMALS ABLE TO MIGRATE TO AND FROM
                            EXIST. ADJ. W.L. CORRIDOR.
                    0 PTS - ANIMALS UNABLE TO MIGRATE TO AND FROM
                            EXIST. ADJ. W.L. CORRIDOR.
```

Table IV-28 W.L. Make-up(biotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
10 PTS - RED TAIL HAWK NESTING SITE PRESENT ON SITE.
0 PTS - RED TAIL HAWK NEST NOT PRESENT ON SITE.

Table IV-29 Veg. Make-up(biotic) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
10 PTS - ONE OR MORE NATIVE VA PINE STANDS PRESENT ON SITE.
0 PTS - NO VA PINE STANDS PRESENT ON SITE.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
10 PTS - 10 OR MORE NATIVE TREES OR SHRUBS EXIST. ON SITE.
1 PT - FOR EVERY 1 NATIVE TREE OR SHRUB EXIST. ON SITE.

Table IV-30 Hist Uniq.(cultural) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE INTACT
                           HISTORICAL STRUCTURES.
                           OR
                   1 PT. - FOR EVERY INTACT HIST. STRUCTURE.


------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE INTACT
                           HISTORICAL STRUCTURES.
                           OR
                   1 PT. - FOR EVERY INTACT HIST. STRUCTURE.


------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE CONTAINS 10 OR MORE INTACT
                            HISTORICAL STRUCTURES.
                            OR
                    1 PT  - FOR EVERY INTACT HIST. STRUCTURE.
```

Table IV-31 Aesthetic(cultural) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 1 OR MORE BATTLEFIELDS
                           OR CEMETERIES.
                   0 PTS - SITE CONTAINS NO BATTLEFIELDS OR
                           CEMETERIES.


------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE CONTAINS 1 OR MORE BATTLEFIELDS
                            OR CEMETERIES.
                    0 PTS - SITE CONTAINS NO BATTLEFIELDS OR
                            CEMETERIES.
```

Table IV-32 Boundary(cultural) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0/10 PTS.
                  10 PTS - SITE CONTAINS ONE OR MORE HIST.
                           BOUNDARY ELEMENTS.
                   0 PTS - SITE CONTAINS NO HIST. BOUNDARY
                           ELEMENTS.

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS ONE OR MORE HIST.
                           BOUNDARY ELEMENTS.
                   0 PTS - SITE CONTAINS NO HIST. BOUNDARY
                           ELEMENTS.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                  10 PTS - SITE CONTAINS ONE OR MORE HIST.
                           BOUNDARY ELEMENTS.
                   0 PTS - SITE CONTAINS NO HIST. BOUNDARY
                           ELEMENTS.
```

Table IV-33 Rt. of Chng.(Cult.) Framework for Select. Recr. Act.

------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION.
OR
.2 PT - FOR EVERY 1% PT OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION

------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - 90% OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION.
OR
.1 PT - FOR EVERY 1% PT OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION.

------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - NO MODERN DAY MAN-MADE INTRUSIONS ON HIST. REMNANT SITE.
0 PTS - ONE OR MORE MAN-MADE INTRUSIONS ON HIST. REMNANT SITE.

Table IV-34 L.U. Inter(cultural) Framework for Select. Recr. Act.

```
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR MORE OF EXISTING REMNANTS
                           ALREADY INTERACT WITH ADJ. USES.
                           OR
                   .2 PT - FOR EVERY 1% PT OF EXIST. REMNANTS
                           INTERACT WITH ADJ. USES.


------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR MORE OF EXISTING REMNANTS
                           ALREADY INTERACT WITH ADJ. USES.
                           OR
                   .2 PT - FOR EVERY 1% PT OF EXIST. REMNANTS
                           INTERACT WITH ADJ. USES.


------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - ENTIRE HISTORICAL SITE INTERACTS
                            WITH ADJ. LAND USES.
                    0 PTS - LESS THAN ENTIRE HISTORICAL SITE
                            INTERACTS WITH ADJ. LAND USES.
```

APPENDIX II
TABLES FROM STEP TWELVE

Table IV-36 Elevation(abiotic) Framework for Select. Recr. Act.

```
  7.2
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR > OF SITE DOES NOT EXCEED
                           3000' ELEVATION.
                           OR
                   .2 PT - FOR EVERY 1 PERCENTAGE PT. NOT EXCEED.
                           3000' ELEVATION.

  7.2
------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR > OF SITE DOES NOT EXCEED 3000'
                           ELEVATION.
                           OR
                   .2 PT - FOR EVERY 1 PERCENTAGE PT. NOT EXCEED.
                           3000' ELEVATION.

  3.3
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE HAS AND ELEVATION RANGE OF 1000'
                           OR MORE.
                           OR
                   .01 PT- FOR EVERY 1' OF ELEVATION RANGE.

  7.2
------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR > OF SITE DOES NOT EXCEED
                           3000' ELEVATION.
                           OR
                   .2 PT - FOR EVERY % PT OF SITE THAT DOES
                           NOT EXCEED 3000' ELEVATION.
```

Table IV-37 Soils(abiotic) Framework for Select. Recr. Act.

8
------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
10 PTS - 10 OR MORE ACRES OF SANDY LOAM SOIL ON 0-2% SLOPE.
OR
1 PT. - FOR EVERY ACRE OF SANDY LOAM SOIL ON 0-2% SLOPE.

Table IV-38 Water(abiotic) Framework for Select. Recr. Act.

```
  6
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 5 OR MORE SURFACE
                           WATER FEATURES.
                           OR
                   1 PT. - FOR EVERY SEPARATE SURFACE WATER
                           FEATURE PRESENT.

  3
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SEPARATE
                           SURFACE WATER FEATURES.
                           OR
                   1 PT. - FOR EVERY SEPARATE SURFACE WATER
                           FEATURE PRESENT.


  10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - SITE CONTAINS ONE OR MORE SURFACE
                            WATER FEATURES THAT INTERACT WITH
                            HISTORIC REMNANTS.
                    0 PTS - SITE CONTAINS NO SURFACRME WATER
                            FEATURES THAT INTERACT WITH A
                            HISTORIC FEATURE.
```

Table IV-39 Solar(abiotic) Framework for Select. Recr. Act.

```
  10
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR MORE OF SITE IN SOUTHERN
                           EXPOSURE.
                           OR
                   .2 PT - FOR EVERY 1% OF SITE IN S. EXPOSURE.

  10
------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR MORE OF SITE IN SOUTHERN
                           EXPOSURE.
                           OR
                   .2 PT - FOR EVERY 1% OF SITE IN S. EXPOSURE.

  4.5
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE HAS ALL EIGHT SOLAR ORIENT.
                           (N,NE,E,SE,S,SW,W,NW)
                           OR
                   1.5PT. - FOR EVERY ORIENTATION SITE CONTAINS.

  10
------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR MORE OF SITE IN SOUTHERN
                           EXPOSURE.
                           OR
                   .2 PT - FOR EVERY 1% OF SITE IN S. EXPOSURE.

  9
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - 50% OR MORE OF HISTORIC REMNANT
                            AREA IN SOUTHERN EXPOSURE.
                            OR
                    .2 PT - FOR EVERY 1% PT OF HIST. REMNANT
                            AREA ACREAGE IN S. EXPOSURE.
```

Table IV-40 Slope(abiotic) Framework for Select. Recr. Act.

```
  3.6
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - 50% OR MORE OF SITE WITH 0-5% SLOPE.
                           OR
                   .2 PT - FOR EVERY 1% PT OF SITE W/0-5% SLOPE.

  10
------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 ACRES OR MORE OF
                           LAND W/0-2% SLOPE.
                           OR
                   1 PT. - FOR EVERY ONE ACRE OF SITE WITH
                           SLOPE OF 0-2%.

  9.6
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - 25% OR MORE OF SITE WITH SLOPES > 25%
                           OR
                   .4 PT - FOR EVERY 1% PT OF SITE WITH SLOPE

10
------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 ACRES OR MORE OF
                           LAND WITH 0-2% SLOPE.
                           OR
                   1 PT. - FOR EVERY 1 ACRE OF SITE WITH
                           SLOPE 0-2%.

  8
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                  10 PTS - 50% OR MORE OF HISTORIC REMNANT
                           AREA WITH A 0-8% SLOPE.
                   .2 PT - FOR EVERY 1% PT OF HIST. REMNANT
                           WITH A 0-8% SLOPE.
```

Table IV-41 Pollution(abiotic) Framework for Select. Recr. Act.

```
 10
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0/10 PTS.
                  10 PTS - NO POLLUTION ON SITE
                   0 PTS - EVIDENCE OF POLLUTION ON SITE.

 10
------- (SPECIFIC SCORE)

SOCCER............POINT RANGE= 0/10 PTS.
                  10 PTS - NO POLLUTION ON SITE.
                   0 PTS - EVIDENCE OF POLLUTION ON SITE.

 10
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
                  10 PTS - NO POLLUTION ON SITE.
                   0 PTS - EVIDENCE OF POLLUTION ON SITE.

 10
------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0/10 PTS.
                  10 PTS - NO POLLUTION ON SITE.
                   0 PTS - EVIDENCE OF POLLUTION ON SITE.

 10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - NO POLLUTION ON SITE.
                    0 PTS - EVIDENCE OF POLLUTION ON SITE.
```

Table IV-42 Flora(biotic) Framework for Select. Recr. Act.

```
  8
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE POSSESSES 10 OR MORE SPECIES
                           OF HARDWOOD TREES.
                           OR
                   1 PT. - FOR EVERY SPECIES OF HARDWOOD TREES.

  4
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SPECIES
                           OF EDIBLE FRUIT TREES.
                           OR
                   1 PT. - FOR EVERY SPECIES OF FRUIT TREE PRESENT

  8
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE POSSESSES 10 OR MORE SPECIES
                            OF HARDWOOD TREES.
                    1 PT  - FOR EVERY SPECIES OF HARDWOOD TREE.
```

Table IV-43 Fawna(biotic) Framework for Select. Recr. Act.

```
 10
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 10 OR MORE SPECIES
                           OF WILD BIRDS.
                           OR
                   1 PT. - FOR EVERY SPECIES OF WILD BIRDS
                           PRESENT.

 8.5
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 100 OR MORE SPECIES
                           OF WILDLIFE.
                   .1 PT - FOR EVERY SPECIES OF WILDLIFE ON SITE.

 10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE POSSESSES 10 OR MORE SPECIES
                            OF NATIVE MAMMALS.
                    1 PT  - FOR EVERY SPECIES OF NATIVE MAMMAL.
```

Table IV-44 Veg. Pattern(biotic) Framework for Select. Recr. Act.

6.6
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE COMPOSED OF HARDWOOD FOREST AND PASTURE.
OR
.2 PT - FOR EVERY 1% PT OF SITE COMPRISED OF HARDWOOD FORESTS AND PASTURE.

6.6
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE COMPOSED OF HARDWOOD FOREST AND PASTURE.
OR
.2 PT - FOR EVERY 1% PT OF SITE COMPRISED OF HARDWOOD FORESTS AND PASTURE.

7
------- (SPECIFIC SCORE)

TENNIS............POINT RANGE= 0-10 PTS.
10 PTS - 10 ACRES OF SITE WITH SLOPE OF 0-2% SLOPE COVERED WITH EVERGREENS.
OR
1 PT. - ONE PT. FOR EVERY ACRE OF SITE WITH SLOPE OF 0-2% AND EVERGREENS.

6.6
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE COMPRISED OF HARDWOOD FOREST AND PASTURE.
OR
.2 PT - FOR EVERY 1% PT OF SITE COMPRISED OF HARDWOOD FOREST AND PASTURE.

Table IV-45 Hunting(biotic) Framework for Select. Recr. Act.

```
  2
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - NO HUNTING ALLOWED WITHIN 10 MILES.
                           OR
                   1 PT. - FOR EVERY ONE MILE AWAY FROM SITE
                           HUNTING IS ALLOWED.

  2
------- (SPECIFIC SCORE)

TOUR. HIST. SITE..POINT RANGE= 0-10 PTS.
                  10 PTS - NO HUNTING ALLOWED WITHIN 10 MILES.
                           OR
                   1 PT  - FOR EVERY ON MILE AWAY FROM SITE
                           HUNTING IS ALLOWED.
```

Table IV-46 LU Change(biotic) Framework for Select. Recr. Act.

```
  7.5
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - NO LAND USE CHANGES CURRENTLY TAKING
                           PLACE ADJ. TO SITE.
                           OR
                   .1 PT - FOR EVERY 1% PT NOT CURRENTLY UNDER-
                           GOING LAND USE CHANGE.

  7.5
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - NO LAND USE CHANGES CURRENTLY TAKING
                           PLACE ADJ. TO SITE.
                           OR
                   .1 PT - FOR EVERY 1% PT NOT CURRENTLY UNDER-
                           GOING LAND USE CHANGE.
```

Table IV-47 W.L. Corr.(biotic) Framework for Select. Recr. Act.

```
 10
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0/10 PTS.
                  10 PTS - ANIMALS ABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.
                   0 PTS - ANIMALS UNABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.

 10
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
                  10 PTS - ANIMALS ABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.
                   0 PTS - ANIMALS UNABLE TO MIGRATE TO AND FROM
                           EXIST. ADJ. W.L. CORRIDOR.

 10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - ANIMALS ABLE TO MIGRATE TO AND FROM
                            EXIST. ADJ. W.L. CORRIDOR.
                    0 PTS - ANIMALS UNABLE TO MIGRATE TO AND FROM
                            EXIST. ADJ. W.L. CORRIDOR.
```

Table IV-48 W.L. Make-up(biotic) Framework for Select. Recr. Act.

```
  0
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
                  10 PTS - RED TAIL HAWK NESTING SITE PRESENT
                           ON SITE.
                   0 PTS - RED TAIL HAWK NEST NOT PRESENT ON
                           SITE.
```

Table IV-49 Veg. Make-up(biotic) Framework for Select. Recr. Act.

```
  0
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0/10 PTS.
                  10 PTS - ONE OR MORE NATIVE VA PINE STANDS
                           PRESENT ON SITE.
                   0 PTS - NO VA PINE STANDS PRESENT ON SITE.

  4
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - 10 OR MORE NATIVE TREES OR SHRUBS
                            EXIST. ON SITE.
                    1 PT  - FOR EVERY 1 NATIVE TREE OR SHRUB
                            EXIST. ON SITE.
```

Table IV-50 Hist Uniq.(cultural) Framework for Select. Recr. Act.

$$\frac{4}{\text{(SPECIFIC SCORE)}}$$

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 OR MORE INTACT HISTORICAL STRUCTURES.
OR
1 PT. - FOR EVERY INTACT HIST. STRUCTURE.

$$\frac{4}{\text{(SPECIFIC SCORE)}}$$

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 OR MORE INTACT HISTORICAL STRUCTURES.
OR
1 PT. - FOR EVERY INTACT HIST. STRUCTURE.

$$\frac{4}{\text{(SPECIFIC SCORE)}}$$

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
10 PTS - SITE CONTAINS 10 OR MORE INTACT HISTORICAL STRUCTURES.
OR
1 PT - FOR EVERY INTACT HIST. STRUCTURE.

Table IV-51 Aesthetic(cultural) Framework for Select. Recr. Act.

```
  0
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS 1 OR MORE BATTLEFIELDS
                           OR CEMETERIES.
                   0 PTS - SITE CONTAINS NO BATTLEFIELDS OR
                           CEMETERIES.

  0
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0-10 PTS.
                   10 PTS - SITE CONTAINS 1 OR MORE BATTLEFIELDS
                            OR CEMETERIES.
                    0 PTS - SITE CONTAINS NO BATTLEFIELDS OR
                            CEMETERIES.
```

Table IV-52 Boundary(cultural) Framework for Select. Recr. Act.

```
 10
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0/10 PTS.
                  10 PTS - SITE CONTAINS ONE OR MORE HIST.
                           BOUNDARY ELEMENTS.
                   0 PTS - SITE CONTAINS NO HIST. BOUNDARY
                           ELEMENTS.

 10
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
                  10 PTS - SITE CONTAINS ONE OR MORE HIST.
                           BOUNDARY ELEMENTS.
                   0 PTS - SITE CONTAINS NO HIST. BOUNDARY
                           ELEMENTS.

 10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
                   10 PTS - SITE CONTAINS ONE OR MORE HIST.
                            BOUNDARY ELEMENTS.
                    0 PTS - SITE CONTAINS NO HIST. BOUNDARY
                            ELEMENTS.
```

Table IV-53 Rt. of Chng.(Cultur) Framework for Select. Recr. Act.

7
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION.
OR
.2 PT - FOR EVERY 1% PT OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION

3.85
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - 90% OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION.
OR
.1 PT - FOR EVERY 1% PT OF SITE EXIST. WITHOUT MAN-MADE INTERUPTION.

10
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - NO MODERN DAY MAN-MADE INTRUSIONS ON HIST. REMNANT SITE.
0 PTS - ONE OR MORE MAN-MADE INTRUSIONS ON HIST. REMNANT SITE.

Table IV-54 L.U. Inter(cultural) Framework for Select. Recr. Act.

2
------- (SPECIFIC SCORE)

JOGGING...........POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF EXISTING REMNANTS ALREADY INTERACT WITH ADJ. USES.
OR
.2 PT - FOR EVERY 1% PT OF EXIST. REMNANTS INTERACT WITH ADJ. USES.

2
------- (SPECIFIC SCORE)

W.L. OBSERVATION..POINT RANGE= 0-10 PTS.
10 PTS - 50% OR MORE OF EXISTING REMNANTS ALREADY INTERACT WITH ADJ. USES.
OR
.2 PT - FOR EVERY 1% PT OF EXIST. REMNANTS INTERACT WITH ADJ. USES.

0
------- (SPECIFIC SCORE)

TOUR. HIS. SITES.. POINT RANGE= 0/10 PTS.
10 PTS - ENTIRE HISTORICAL SITE INTERACTS WITH ADJ. LAND USES.
0 PTS - LESS THAN ENTIRE HISTORICAL SITE INTERACTS WITH ADJ. LAND USES.

APPENDIX III
LE/SA FACTOR DEFINITIONS

LAND EVALUATION----------ABIOTIC

Characteristics to be included are as follows:

1. LANDFORM: Site contains interesting landscape resulting from any one or combination of the following landscape features: BLUFFS, CLIFFS, CRATERS, ISLANDS, RELIEF FORMS, ROCK OUTCROPS, SURFACE COVER, OR SPECIAL TOPOGRAPHY.

2. ELEVATION: Suitability of site based on percentage of land above or within a certain elevation above sea level.

3. HAZARD POTENTIAL: Land susceptibility to natural or man-made hazards: ie. FLOODS, EARTHQUAKES, LANDSLIDES, AVALANCHES, VOLCANIC ERUPTIONS, FOREST OR BRUSH FIRES, ETC.

4. SOILS: Suitability depending on one or more of the following factors: FERTILITY, MOISTURE, VARIATION, DRAINAGE, PRODUCTIVITY, ERODIBILITY, POTENTIAL STRENGTH TO SUPPORT BUILDINGS, SLOPE STABILITY, SHRINK-SWELL, SOIL SUITABILITY FOR ON-SITE SEWAGE DISPOSAL, ETC.

5. WATER: Availability of water on the site. To include: LAKES, RIVERS, STREAMS, AQUIFERS, BASIC HYDROLOGY, SPRINGS, WATERFALLS, RAPIDS, OCEANS, AND CATCHMENT POTENTIAL.

6. SOLAR ORIENTATION: Suitability of site according to it's aspect or orientation to the sun.(N,NE,E,SE,S,SW,W,NW).

7. SLOPE: Suitability of the site to match the predetermined categories of percentage of site to a specific gradient or range of slopes.

8. ENERGY RESOURCES: The availability of energy resources such as WATER,AIR, WOOD, SUN, OR MINERAL RESOURCES that could significantly enhance the chances for success of a particular type of recreational use.

9. POLLUTION: The degree to which pollution has detracted from the site's attractiveness for the specific recreational use proposed. This includes OPEN TRASH DUMPS AND OTHER LAND POLLUTION, WATER POLLUTION, ACID RAIN AND OTHER AIR POLLUTION, ETC.

10. ENVIRONMENTAL FACTORS: The availability of other abiotic land evaluation factors that may add to or detract from the quality of a site for a specific recreational use.

LAND EVALUATION-----------BIOTIC

1. FLORA DIVERSITY/RARITY: Site possesses a wide range of plant species. Some plants may be unique to site or rare. Higher points given to the site that possesses a wider range of species or rare plants.

2. FAUNA DIVERSITY/RARITY: Site possesses a wide range of animal species. Some animals may be unique to site or rare. Higher points given to the site that possesses a wider range of species or rare animals.

3. VEGETATIVE PATTERN: suitability of site to meet predetermined general make-up according to percentages of the following: PASTURE, HARDWOOD FOREST, EVERGREEN FOREST, MIXED HARD./EVER. FOREST, WILDFLOWER FIELDS, PRARIES, ORCHARDS, WETLANDS, SWAMPS, ETC.

4. IMPACT OF HUNTING: Degree to which controlled hunting would have an impact on existing wildlike.(pos./neg.)

5. IMPACT OF LAND USE CHANGE ON WILDLIFE: The degree and rate at which impending land use changes or processes threaten existing wildlife. These changes may result from one or a combination of any of the following: ADJACENT BUILDING ON AND/OR CLEARING OF HABITAT, EXCESSIVE NOISE, INTERUPTION IN ECOLOGICAL FOOD CHAIN, ETC.

6. POTENTIAL AS A WILDLIFE CORRIDOR: The suitability of a site to allow for the day to day, seasonal and yearly migration of animals from place to place without interuption from man-made elements or other restrictive elements.

7. SPECIFIC WILDLIFE MAKE-UP: The suitability of a site to meet the predetermined wildlife make-up. The success of a site in this category is determined by whether or not a certain type of animal or animals are found on the site.

8. SPECIFIC VEGETATIVE MAKE-UP: The suitability of a site to meet the predetermined vegetative make-up. The success of a site in this category is determined by whether or not a certain type of vegetative material is found on the site.(ie. oak tree, poison ivy or blueberry bushes.)

LAND EVALUATION——CULTURAL/HISTORIC

1. HISTORICAL UNIQUENESS OR REPRESENTATIVENESS: Site contains remnants or intact structures of historic importance that may contribute to the success of the site as a recreational area. High points given to a site with high possible impact and no points given to site with high negative impacts. (ie. cemeteries, orchards, railroads, mines, mills, covered bridges, lighthouses, etc.).

2. ARCHEOLOGICAL IMPORTANCE: Site is known to contain artifacts yet to be completely uncovered of past civilizations or cultures that would contribute to the success of a recreational area.

3. AESTHETIC SYMBOLIC IMPORTANCE: Site is distinguished as having some historical/symbolic importance to a culture(ie. burial ground, religious site, civil war battle, etc.). High points given for positive impact potential.

4. BOUNDARY CONTROLLING ELEMENTS: Site is delineated by historic boundary controlling elements (ie. fences, hedgerows, planted treelines, canals, etc.).

5. RATE OF LAND USE CHANGE: Site may have opportunity to be saved in its pristine or unaltered state by designating it as a recreation area. High points for high potential.

6. LAND USE INTERACTION: Site's land use interactions,(how well existing historic uses interact with adjacent land uses), could be improved by recreational use proposed.

SITE ASSESSMENT

Characteristics to be included are as follows:

1. LAND USE ADJACENT TO SITE: It is one presumption of this factor that the recreational design to be placed on this site will enhance the attractiveness of adjacent properties. The more properties that this proposal would enhance the more points it would receive.

2. COMPATIBILITY WITH COMPREHENSIVE PLAN AND ZONING: It is desirable to rate proposals that are consistent with the current comprehensive plan highly and those that are inconsistent low.

3. AVAILABILITY OF PUBLIC SERVICES: Presuming that the proposed recreation to take place on a site would require public services such as water, sanitary sewers and electricity, then higher points would be given to the site with services available and less points to the site that would require an economic investment to supply utilities.

4. COMPATIBILITY OF RECREATIONAL USE WITH SURROUNDING USES: The implication is that it is desirable to cluster uses which would compliment, or at least not conflict with each other. The maximum amount of points will be given to a proposal that seemingly will compliment adjacent land uses and lower points for the proposal that may conflict with adjacent land uses.

5. ENVIRONMENTAL FACTORS: If because of environmental factors (floodplain, or environmentally sensitive area), the site would be unfit for any other type of use other than recreational use, it should

be given higher points.

6. DISTANCE TO URBAN AREA: This factor assumes that for recreational areas not located within the urban areas boundary, that the less amount of travel time to the site would receive the most points.

7. TRANSPORTATION/PROXIMITY AND QUALITY OF ARTERIALS: This factor gives higher value to the proposal(site) that is nearest to very well maintained arterials that provide a good scenic or other experience to site and less for those which do not.

8. AVAILABILITY OF ZONED LAND FOR PLANNED USE AND EXPANSION: If the idea of future expansion is a requirement for the selection of a recreational site for a specific proposal, then the amount and quality of adjacent land zoned for recreational use must also be determined and scored accordingly.

9. DOLLAR COST OF LAND/ECONOMIC POTENTIAL/RELATIVE ASSESSMENT: The cost of the land, the cost of transformation and the economic potential must be weighed. The site that possesses the highest potential for economic success would receive the most points.

10. USER POPULATION/CARRYING CAPACITY/DENSITY/: The more people a site is positively capable of serving for a particular recreational use, the more beneficial it is and the more points it should receive.

11. VISUAL QUALITY/AMENITY/DIVERSITY AND CONTRAST: Sites that support exceptionally scenic views or are they themselves visually unique or provide for a extremely diverse and contrasting landscape would receive the highest points.

12. AVAILABILITY OF OFF-SITE PARKING: Sites that have the availability of existing or potential off-site parking, are more desirable than those that will have to allow valuable recreational land for parking of vehicles.

13. ENHANCEMENT OF PROPERTY VALUES ADJACENT TO SITE: Although not the main purpose, it is an added attribute of the site if it has the capacity to enhance adjacent property values by adding a particular type of recreational use.

14. EASE OF TRANSFORMATION- EXISTING LAND USE OR STATE, CONVERSION PROBLEMS, DEGREE OF ALTERATION: The amount of alteration of a site for a specific recreational use is not only expensive and time consuming, but also suggests that the recreational use implied may not be the best use of the land. Higher points should be given to a site for lesser degrees of transformation.

15. SURROUNDING LANDOWNER CLIMATE TOWARDS PROJECT: Presumably, the more landowners favor the proposed use of this land, the more chance

there will be for the successful implementation of it.

16. CRIME POTENTIAL: Crimes have the potential to ruin the effect and use of recreational areas. If there are to be no crime inhibitors in the design of the proposed use, the site located in an area with the least crime potential would receive the most points.

17. SITE IN, ADJACENT TO, OR HAVING ABILITY TO NETWORK OR BECOME INTEGRATED WITH EXISTING RECREATION AREAS: The ability to network with existing recreational areas has many advantages. Higher points would be given to the site that has true potential to network with existing recreational areas.

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