TREND INDICATORS NEEDED FOR EFFECTIVE RECREATION PLANNING--A STATISTICAL BLUEPRINT FOR THE 80's [1]

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Abstract.--Here we outline important elements in recreation planning and describe how the process is changing, using Federal land management agencies as our example. We outline some factors that will impact on planning in the 80's, encourage establishment of a system to monitor trends in key factors that influence recreation behavior.

THE CHANGING PLANNING PROCESS

More than ever before, future outdoor recreation planning decisions will require reliable, up-to-date trend information not only about what the American people are doing, or not doing, for recreation, but what they plan to do and the factors that will influence what they plan to do. In the past, application of outdoor recreation planning concepts to on-the-ground management has been largely informal and intuitive, particularly in cases where conflicts over resource allocation have not been intensive. For many years, the success of judgmental or subjective planning methods were measured by continuing political support and relative lack of controversy over land use policies.

But the situation has changed as pressures mounted in recent years. Protests and court suits have increased as resources have become more scarce. The environmental movement of the 1960's and early 1970's led to Federal legislation, regulations, and executive orders that required increased attention to the environmental consequences of Federal actions, including those resulting from management of natural resources. Legislation, such as the National Environmental Policy Act of 1969 with its requirements for environmental assessments and impact statements, generated new needs for information on participation in outdoor recreation.

A more recent demand has come from Federal legislation requiring renewable natural resource appraisals to guide national policies and programs, as well as accelerated planning for management of Federal lands. In 1974, the Congress enacted the Forest and Rangeland Renewable Resources Planning Act (RPA). This legislation authorized the Forest Service to conduct periodic assessments of the renewable resources on all of the Nation's forest and rangelands and to identify management needs, opportunities, and alternative programs. The National Forest Management Act of 1976 requires that land and resource management planning be completed on all National Forests by 1985, thus generating an additional major need for outdoor recreation information. The Federal Land Policy and Management Act of 1976 requires the Bureau of Land Management to develop multiple use management plans for lands under its administration and to inventory the resource values of the public lands in order to identify changes and emerging resource needs. Under the provisions of the Soil and Water Resources Conservation Act of 1977, the Soil Conservation Service is conducting periodic appraisals of the soil, water, and related resources of the Nation. The purpose of this appraisal is to assure that the Department of Agriculture's programs for management of soil, water, and related natural resources address long term needs.

The effects of these legislative developments has been to stimulate a major need for outdoor recreation information. For instance, in the National Forest System, local and regional land and resource plans are being prepared to establish long range outdoor recreation priorities. To satisfy RPA requirements, Regions must compile outdoor recreation information for the National Assessment and Program, appropriate RPA program

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targets for outdoor recreation to individual National Forests, and coordinate these planning activities with State and other agencies.

The relationship between the RPA Recommended Program and land management planning and the annual budgeting process is now guided by Section 6 of the National Forest Management Act of 1976. That section requires formulation of a detailed planning system for program coordination. In essence, what was required was refinement of a process that has been evolving within the Forest Service for many years. Some key characteristics of this system are:

- Allocation of resource production targets based on resource capability of each administrative unit and on relative efficiency of production.

- Regional Foresters utilizing assessment findings and the National RPA Program to prepare regional plans. These plans will show how outdoor recreation targets are distributed among National Forests within each Region.

- Using the assigned target range and local information on capabilities, each National Forest prepares a plan for accomplishing assigned targets. Specific aspects of this formulation are:

  (1) Development of a 4-decade program for outdoor recreation outputs for each National Forest based on the RPA Recommended Program.

  (2) Development of a 10-year outdoor recreation activity program for each National Forest based on the RPA Recommended Program, including appropriate National Forest-wide administrative support, transportation, resource protection and public safety activities.

  (3) Identification of land units at the National Forest level, from which outdoor recreation outputs or combinations of outputs could be produced, and of the appropriate activities and investments necessary for production of these outputs. This identification will come from the inventory information base for each National Forest; and

  (4) Conduct environmental and benefit-cost analyses of the relative efficiency of production from each resource unit or group of resource units with similar characteristics.

  (5) Identify major outdoor recreation issues and demonstrate program responsiveness to these issues.

As other agencies have found out, assessing the demands for outdoor recreation in order to plan for future programs is a complex undertaking. Outdoor recreation covers a wide range of activities and the use of diverse combinations of natural resources, management, and facilties. In addition, recreationists' tastes are known to change with technology, availability of leisure time and economic conditions, among other factors.

In the past, the Heritage Conservation and Recreation Service and its predecessor, the Bureau of Outdoor Recreation, have evaluated the demands for outdoor recreation by conducting national surveys of outdoor recreation participation. States have also conducted surveys patterned largely after these national surveys. Two basic types of information were collected: data on participation in various recreational activities; and socioeconomic data about the people participating in these activities.

For a variety of reasons, however, such surveys have involved no systematic approach to the collection of data over time. Therefore, trend analysis has been difficult or impossible. Similarly, at a more local level, recreation use data has been often limited to yearly estimates or counts of participation for individual sites. As a consequence, it has been difficult to determine whether trends developed from this data reflect real demand responses, or supply responses, or a combination of both. Therefore, analysis and planning for outdoor recreation has often not competed effectively with other values such as urban and industrial development, timber harvest programs, and water resource and energy development. National policies and program decisions on these competing outputs will be strengthened by availability of increasingly comprehensive information bases and analytic systems to evaluate future demands. If comprehensive, comparable information is not developed for outdoor recreation, outdoor recreation probably will not receive adequate consideration in the planning process relative to other resource programs. Provision of this information base presents a major challenge to all of us concerned with outdoor recreation.

TRENDS FOR THE 80'S

Factors that influence recreation participation are complex and interrelated, and the complexity is growing. Past experience is no longer useful as a single input to planning. Even the old standby indicators--population growth, leisure time, income, and mobility--are no longer as useful for planning as they once were. These were useful indices when demands for all leisure services were soaring and people were participating in as much recreation as they could. Under these conditions, more was always better, and the planner with the most grandiose plan was usually closest to fulfilling demand.

But tomorrow will be much different. New factors will influence the shape of future demand, and the influence of old standby indicators will change. Energy availability, urbanization, technology and other factors will be of as much or more importance in determining demands in the 80's as the old standby predictors were during the 60's and 70's. These shifts will necessitate a whole new approach to planning, a need to develop new understanding of the factors that influence demand, and a new system for monitoring trends in key indicators that influence demand. Some of the factors that we feel will be important in shaping recreation demand in the 80's are discussed below. They are organized into five categories: Demand Generating Factors; Changing Patterns of Participation; Characteristics and Availability of Supply; Technological Change; and Energy.

DEMAND GENERATING FACTORS

Population characteristics

An obvious determinant of recreation demand is population size. The more people, the greater the demand. In the U.S., the current population is about 221 million and it is expected to grow to an estimated 232-234 million by the year 1985, and to 250-300 million by 2000. But, the population growth rate has decreased sharply in recent years. In the absence of major changes in birth or death rates, this decline in the rate of growth seems likely to continue. Thus, while the total size of the population will continue as an indicator of future demand for recreation, it may not be as important an indicator as it has been in the past.

Rather, population structure will play a bigger role in determining the kinds of recreation activities and experiences demanded. As population structure changes, shifts occur in recreation demand patterns. The age structure of the population provides an example. Past fluctuations in birth rates--decreasing during the depressed 30's, increasing dramatically during the 40's and 50's, and the current sharp decline--have produced age bulges in the population distribution. Because these bulges reoccur periodically through time, social, economic, and other institutional services, including recreation services, will have to be adjusted up and down through dynamic planning. In the longer term, the mean age of the U.S. population will continue to increase due to better health services and reduced birth rates, and demand for physically active forms of outdoor recreation are likely to decrease.

Relationships between work and leisure

A second major demand-related factor that will significantly influence recreation consumption in the 80's is the patterning of work and leisure throughout society. In most industrialized societies, time devoted to work activity has decreased steadily over the past 100 years.

Factors unrelated to work have also added to the growth in available leisure time. Technological innovation has allowed for the more efficient use of time. In the home, technology has reduced time required for subsistence tasks. More efficient transportation systems have significantly reduced travel time, and, as a result, provided more at home leisure time.

Whether or not the trend in available leisure continues upward is the subject of considerable debate. Few comparable studies have been done to determine trends in leisure time. It may very well be that we are approaching a limit to the upward trend in leisure time. In fact, leisure time may actually start to decline because of offsetting trends in increased time needed to commute and additional time shifted to nonrecreational pursuits such as home maintenance and community services. Individual and social attitudes toward use of leisure is also likely to be more important.

Changing social/cultural roles

Another important group of variables that will influence future recreation planning relate to the changing role of individuals in society. While work-leisure patterns influence the frequency of participation, "experiential" factors, such as expectations, satisfactions, and participant attitudes, influence the type of recreation experience demanded.

First among these factors is the changing nature of children's experiences. Childhood experience has been found to influence adult recreation behavior. This is particularly true for major forest-oriented recreation activities like fishing, camping, and hunting. As the trend toward urbanization continues, children growing up in cities may have limited opportunity to engage in leisure activities that depend on natural surroundings. At the same time, they will have more opportunity to learn about alternative forms of leisure activities--activities that do not require natural environments.

A second experiential factor deals with what might be termed perception of aging. While the process of aging involves a decline in outdoor recreation participation, the future rate of this decline may depend on society's perception of the elderly, and, even more, on the way elderly people view themselves. Until the mid-sixties, it was felt that people began to disengage themselves from the mainstream of society after they reached retirement age. But, as the mean age of the population has increased, a new concept has emerged. Older people now maintain a higher level of activity than they did a few years ago. The new emphasis on activity is keeping elderly people more active, while improvements in health care systems help to keep them in better physical condition. The implications for future planning are obvious.

Another facet of the changing role of the individuals during the 80's is the nature of the individual's role as a member of a family. People are marrying later, having fewer children, and many married couples are not having children. Furthermore, married individuals are increasingly pursuing careers independent of their marriage. These trends in marital relationships are drastically altering the role of women in today's society. The changing role of women may have a greater impact on recreation consumption than all other factors combined. Women are now making incursions into heretofore predominantly male recreation activities. -- This trend merits close observation if we are to plan realistically to meet future recreation demand.

Living environments

Throughout the 70's, late on any Friday afternoon, a steady stream of cars could be seen leaving major U.S. cities. The cars returned on Sunday evening after their occupants had experienced a weekend of recreation in the rural countryside. This mass-weekend exodus, although facilitated by cheap fuel, could be attributed in part to a need for temporary escape from the rigors of urban living. The degree to which stress-producing aspects of urban living can be reduced will strongly influence the need to escape cities in the future, and, correspondingly, affect demand for rural recreation. If sheer population density is the cause of urban stress, then there may be no real solution and the weekend migration will continue. But recent studies indicate that crowding alone is not sufficient to produce such stress. If high-density living is not a source of urban stress, then it may be possible to solve some pressing urban problems. If cities of tomorrow can be provided with sufficient amenity values, recreation behavior of urban residents will be altered significantly. Attractive urban environments will reduce demands on rural recreation resources. Conversely, if such urban environments are not modified, demands on rural recreation resources will increase substantially. But, under conditions of energy scarcity, there may be no alternative to revitalizing cities.

Another urban-related factor that will have strong influence on future demand will be the movement away from single-family residences. The trend toward apartment living, condominiums, and multi-unit dwellings is likely to continue as prices continue to increase and developable urban space decreases. As energy scarcity grows, urban areas are likely to reach a geographic limit based on availability of public transportation. There will be little alternative but to move toward more concentrated populations. This movement will mean that backyard space, once available to single-home unit dwellers, will no longer be available nor will easy access to the countryside. The result will be an intensification of demand for recreation facilities in and very near urban centers.

Economic environments

Much of the past growth in outdoor recreation consumption has been fostered by easy access to inexpensive forms of recreation. Not only has participation been relatively inexpensive, incomes have been growing, thereby providing the ability to participate in recreation and purchase consumer items. The relative price of recreation in comparison to prices of other goods and services has been relatively low. Few can argue that at the outset of the 80's, gains in income are often offset by inflation and by the soaring costs for basic necessities--food, housing, clothing, and energy.

As we plan for leisure services during the 80's, we must monitor relationships between markets that most impact on recreation and on relative price relationships. The 80's may demonstrate how really important recreation participation is to the American public--as shown by how willing people are to pay for a higher proportion of costs in relation to other demands on their increasingly scarce financial resources. The same relationships will hold for public expenditures for providing recreation in relation to growing costs for other public services.

CHANGING PATTERNS OF PARTICIPATION

The cumulative effect of rapid change in the factors previously discussed is that recreation behavior patterns will be subject to both short- and long-run change. These changes underscore the need to document, on a continuing basis, the outdoor recreation participation rates and patterns of the population as a whole and for various segments within the population. Only in this way can we begin to identify meaningful trends and shifts in participation and to develop plans that are responsive to changing demand.

Many leisure activities are substitutable, and the individual can freely interchange among them. Similarly, some activities are complementary--as demand for one goes up the demand for others goes down. While there is little known about these relationships, we should recognize that as major factors that underlie recreation behavior change, people will adjust their patterns of leisure behavior through substitution and complementary decisions about the activities they select.

Futhermore, we need to understand motivational determinants of leisure behavior, i.e., forces that underlie recreation behavior patterns and choice. These motivational forces provide a basis for understanding current recreation behavior and may serve as a guide to predict how people are likely to substitute among alternative recreation activities.

CHARACTERISTICS AND AVAILABILITY OF SUPPLY

Supply factors also influence participation patterns. One supply-related factor is the changing pattern of land ownership. Today, most forest land and open space in or near large metropolitan areas is in small tracts held by private owners. These owners have exhibited a growing tendency to restrict public access to their land. The degree to which these privately owned lands can be used for public recreation will depend largely on the public's willingness to reimburse owners for such use. Land zoning, recreational easements, transfer payments, and other land use control devices can be employed to increase the amount of recreation land readily accessible to urban populations. Or, public agencies can purchase these lands. Measures are needed to index the change in distribution and relative accessibility of such resources so that appropriate supply responses can be developed through planning.

Other indices are also needed to evaluate how supply can be altered to meet recreation demands. For example, indices are needed to evaluate how existing facilities can be expanded to their full site capacities, or adapted to the needs of special populations. This information will make it easier to make policy decisions to influence recreation consumption by changing any combination of the following: The quality of recreation experience provided; methods of management; site capacity; and accessibility and availability of recreation facilities. Scarce and unique resources present a special problem. Here, use must be closely monitored in relation to site capability so that plans can be made to control and regulate use within resource capabilities.

Finally, it will not be sufficient to know where supply exists and to understand its changing capability without understanding how accessible it is to various population segments. What is accessible to an urban slum resident is not the same as what is accessible to an upper middle class person living in an adjoining neighborhood. Supply-related trend indicators, therefore, need to be evaluated in terms of their relationship to various population segments before such indices can be made useful for planning decisions.

TECHNOLOGICAL CHANGE

By introducing new types of recreation equipment, technology provides a continual change in the composition of available leisure activities. For example, the recent development of electronic games has provided new forms of home-oriented indoor leisure pursuits. Development of snowmobiles and other recreational vehicles has created demands on outdoor recreation resources that were not even dreamed of when plans for recreation facilities that serve these activities were developed. Estimates of the impact of technology on recreation demand can only be very roughly estimated, but it is certain that

technology, both directly related to providing new kinds of leisure pursuits and to factors that influence recreation demand, will shape the future of recreation behavior. The impact of technology on planning is obvious. Systems need to be set up to monitor technology and to evaluate the kinds of impacts that are likely to occur.

ENERGY

We conclude this review of major factors that need to be monitored with a discussion of the factor that has had as much impact on starting the surge in demand for recreation as anything else--Energy. Few would argue that availability of inexpensive energy, coupled with correlated improvements in transportation methods and systems, contributed greatly to past growth in recreation consumption. Once it was believed that this abundance would continue; but as gasoline lines grow and prices skyrocket, the future seems much less predictable.

If energy costs remain low or if technology creates ways for more efficient uses of available energy, current rates of recreation consumption can be sustained. But, if these things do not occur, major shifts in recreation demand patterns are likely to occur. For example, during the recent gasoline shortage. U.S. recreation travel patterns changed significantly. As gasoline becomes more scarce and costly, people will have to make choices about how they will either allocate scarce gasoline (if rationing occurs) or how they will allocate income (if gasoline prices continue to rise) among competing needs. How recreation fares in these decisions will have a big impact on recreation demand. These decisions must be of central concern to recreation planners.

SUMMARY AND CONCLUSIONS

In this paper, we have briefly reviewed the planning process in relation to the kinds of trend data that will be needed to plan for future recreation needs. We have identified some of the kinds of trend indices that we feel will be important in the future and tried to indicate why we feel they will be important. We have not, however, addressed how data on these indices should be collected; nor have we commented on the research needed to determine relationships between trend indications and future demands; nor have we discussed the development of modeling techniques needed to make demand projections and assessments. Hopefully these will be major topics for consideration during this conference.

The best of all possible situations would be to design a monitoring system to track all trend indices needed for planning. Of course, this is not feasible because it would be inefficient and impractical. There remains a great deal of work to do to: Determine which indices are most important; determine the way in which the various factors influence recreation behavior; relate indices to the planning process; design systems to monitor indices; and develop models to evaluate alternative plans.

We have tried to show that as the 70's differed from the 60's, the 80's will bring new changes that will influence recreation consumption and, consequently, recreation planning. Among these factors are inflation, energy, transportation systems, international relations, urbanization, etc. All of these factors will have impacts on shifting and changing the shape of demand for recreation. The old indices will not work. For example, we can be sure that population will increase, but, unless people have access to inexpensive gasoline, disposable income, and recreation facilities, they will not be able to participate in recreation. Shifts in factors that influence recreation behavior will necessitate a whole new approach to planning based on a revised understanding of the factors that influence demand and a new system for monitoring trends in key indicators.