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FOREWORD

Most of us would probably endorse a one-year moratorium on meetings, conferences, conventions, workshops, and symposia. In fact, this planning committee was so reluctant to assemble another conference that it spent nearly 2 years identifying the needs and developing the program. When the rate of change is as great as it has been in outdoor recreation, conferences such as this one become essential. This is an exceptional conference because it focuses on that change, documents it, and attempts to determine what its future implications may be.

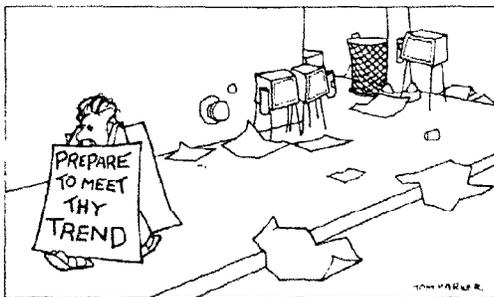
Ten years ago, a Forest Recreation Symposium was held at Syracuse, N.Y., for the purpose of "consolidating and synthesizing past research efforts in outdoor recreation." Even a hasty comparison of these proceedings with those from Syracuse suggests the enormous volume of research that has occurred over these 10 years. Equally apparent is the change in the kinds of research information that are available today; from the static descriptive and prescriptive studies of the late 1960's to examinations of trends, shifts, and changes in the outdoor recreation economy. Effective planning requires this dynamic view of outdoor recreation. Because planning, whether for corporate investment or public development, is a long-range activity, it needs information that goes beyond simple statements of "what is" into the realm of "what has been" and "what will be."

Statistical reporting is a critical function of government. Without this essential service, it would be difficult, if not impossible, to assess the state of the economy, the

quality of health care, or the adequacy of public education. Price indexes, business slumps, new construction, pollution levels, production facts, and employment figures pop out of Washington bureaus onto boardroom conference tables with almost biologic regularity. Agriculture, mining, housing, manufacturing, wholesale and retail trade, doctors, dentists, educators, butchers, bakers, and even high school guidance counselors have more federally-sponsored statistics to plan with than do the providers of America's outdoor recreation opportunities. We attempt to plan the future of the Nation's recreation resources in the absence of facts about the present level and rate of growth of private investment in leisure industries. We define policy on the basis of out-of-date data and ideas about public participation in recreation activities. And, we invest scarce research dollars in "problems" which may not exist, or might at least look different if we had adequate statistics with which to view them. This symposium will not correct the situation. It can only serve to heighten your present uneasiness over the quantity and quality of available trend data. But we hope it will instill an urgency within you to demand better, more current, and more comprehensive statistics on outdoor recreation in America.

Good planning has been described as a two-step process. "First you figure out what is inevitable. Then you find a way to take advantage of it." In assembling this collection of speakers and topics, we have provided you with the best available information on, if not the inevitable, at least that which is highly probable and highly improbable. Step 2 -- how you take advantage of that information -- is what recreation researchers will be monitoring in the years ahead.

WILBUR F. LaPAGE, Chairman
Program Committee



American Demographics, September 1979.
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THE 1980 NATIONAL
OUTDOOR RECREATION TRENDS SYMPOSIUM

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SOCIAL INDICATORS AND OUTDOOR RECREATION:
THE FORGOTTEN SECTOR¹

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Abstract.--Following a brief historical overview of the social indicators movement, outdoor recreation measures which can be considered as social indicators are discussed. Such indicators are largely derived from social surveys. Illustrative data from 53 such surveys are presented. Despite the availability of such data, there have been few attempts to adapt them as established indicators in the outdoor recreation field. Reasons for not considering the data as indicators are suggested. Finally, a number of parameters which might be used as social indicators in outdoor recreation in the 1980's are outlined.

WHAT ARE SOCIAL INDICATORS?

Although policy makers and planners are familiar with the concept of "social indicators," there is little consensus among them as to what constitutes a social indicator and how indicators are intended to be used. The ambiguity associated with the concept in part reflects the evolutionary nature of what has been referred to for more than a decade as a movement. The social indicators movement, however is not that new. In the late 1920's, President Hoover appointed a commission to report on the changing social conditions taking place in the United States. The results of that commission's efforts were published in 1933 and described social trends reflecting various aspects of life in the United States. In addition to the report, 13 separate monographs were produced, covering topics ranging from nutrition and health to recreation and leisure.

¹ Paper presented at the National Outdoor Recreation Trends Symposium, Durham NH, April 20-23, 1980.

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The movement, however, received its label in the mid-1960's with the publication of Raymond Bauer's widely publicized book, Social Indicators. The focus of Bauer's edited volume was on the development and use of social measures in assessing the state of society in relation to national goals. One influential chapter covered social systems accounting and called for the development of comprehensive models describing the structures of entire social systems.

In part as a response to the Bauer publication, the federal government issued Toward A Social Report in the late 1960's. The report, prepared by HEW, detailed the need for social indicators as a way of assessing the progress the country was making toward achieving societal goals. One part of the report focused on the compilation of descriptive statistics in a format such that they could be aggregated for summary purposes or disaggregated to allow for detailed analysis of sub-areas and sub-populations of the country. Another theme considered the collection of direct measures of welfare and the need to contrast them with the more readily available measures of government expenditures or other types of inputs. Implicit in this theme is the notion that measures of welfare should be expressed in terms of outputs and herein lies one of the central issues facing the social indicator movement today: that is, just how do we measure output?

This issue is brought home when reviewing the two government volumes, Social Indicators,

1973 and Social Indicators, 1976. In the first volume, measures of welfare are expressed in terms of various statistics describing conditions of American life. Measures of longevity, mental retardation, crime, educational attainment and income obtained from various governmental records are typical of the material reported in the volume. It is not difficult to understand why there is a lack of consensus about social indicators when one considers these types of measures. On the one hand, they can be viewed as the direct measures of welfare called for in Toward a Social Report; on the other hand, they might be viewed as inputs by some who would argue that they do not present a complete picture of what is happening in the country.

In Social Indicators, 1976, the descriptive measures are presented once again, but also there is greater attention given to public perceptions of social conditions. In the social indicator movement, the distinction is made between these two types of indicators: one deals with the objective conditions of society while the other covers peoples' responses to these conditions. The distinction between objective and subjective indicators is reflected in much of the quality of life research conducted over the past decade. Some studies describe quality of life in a particular place in terms of its crime rate, its level of unemployment or the amount of air pollution, while others describe quality of life by the way people experience it and as reflected by their attitudes and behaviors. Thus, social indicators can be talked about in terms of social accounting, ways of monitoring social change and reporting social conditions or measuring the quality of life as people experience it.

While there is some agreement that social indicators however described are needed, the question of how indicators are and should be used is far from clear. Ideally, indicators in the form of social statistics could be used to guide decision makers in their deliberations. However, a systematic study of the use of Social Indicators, 1973 by federal bureaucrats shows that few make direct use of such data. (Caplan and Barton 1978)

AVAILABLE OUTDOOR RECREATION INDICATORS

Voluminous data are available on all facets of outdoor recreation. Providers of outdoor recreation opportunity have collected data on facilities, lands, programs and equipment sales. Additionally, information has been solicited from participants in outdoor

recreation activities and the general public. Typical data from social surveys have included participation rates, use pattern descriptions, preferences for participation and constraints to participation. This paper focuses primarily on information solicited from such surveys.

By the 1970's, surveys dealing with outdoor recreation had become an integral part of the planning functions for all seven federal land managing agencies and all Statewide Comprehensive Outdoor Recreation Plans. A study of recreation surveys was conducted for the years 1970-77 as part of an unpublished analysis of the 1977 National Outdoor Recreation Surveys. It revealed that various federal agencies and the majority of state governments, as well as commercial researchers, had conducted 65 major surveys oriented specifically to outdoor recreation. Approximately 650,000 people have participated in these surveys which carry a price tag in excess of 6 million dollars. Dozens more small-scale surveys have also been carried out. In total, these survey efforts have produced a wealth of information on outdoor recreation.

The national outdoor recreation surveys

Research in outdoor recreation came to the forefront early in the 1960's at a time when the concept of social indicators was gaining visibility. The Outdoor Recreation Resource Review commission (ORRRC) produced a series of reports which are, even today, unprecedented in their scope and comprehensiveness. Recreation data were presented on financing, behaviors, attitudes, management, and existing and potential resource supply. Unfortunately, these data have never been fully utilized as bench marks for establishing social trends.

In 1965, while the perspectives of ORRRC were still fresh, the newly formed Bureau of Outdoor Recreation (BOR) sponsored a national recreation survey which was a close approximation of the 1960 survey conducted for the ORRRC. According to its enabling legislation, the BOR was intended to be the federal focal point for recreation research and the collection of trend data. Hopes were high that the generation of social indicators for outdoor recreation was an established fact.

Unfortunately, the 1965 BOR survey never lived up to its research expectations. The data were never fully analyzed and only a small portion of the findings have been published. Data from this and the earlier ORRRC survey were soon lost and with them the opportunity to establish a trend line for outdoor recreation indicators. The 1965 survey experience had established a trend of sorts, in that subsequent national recreation surveys were

sponsored by BOR/HCRS in 1970, 1971, 1972, and 1977. (BOR was renamed the Heritage Conservation and Recreation Service in 1977) None of these surveys have been thoroughly analyzed, very little has been published, and until recently, some of the data were unavailable.

An additional problem in establishing trends is that the comparability of those surveys is limited. A methodological summary of the four most comparable surveys sponsored by the BOR/HCRS is shown in Table 1. Participation rates shown in Table 2 illustrate the difficulty in comparing these survey results over time. That difficulty stems from variation in sampling techniques, activity names, length of recall for participation, and the circumstances of the participation (summer only, during type of trip, or year around). The 1972 survey provided an underestimate of activity participation relative to findings of the 1960 and 1965 surveys according to an analysis of the methodology of the first five national outdoor recreation citizen surveys (Stowell 1975). On the other hand, participation in the 1977 survey was an apparent overstatement for several activities in comparison to other contemporary national surveys. This discrepancy was probably due to a shift to data collection by telephone. Thus, although a series of national surveys was envisioned as providing trend data from which social indicators would evolve, it did not happen.

Other federally collected outdoor recreation data

Federal involvement in outdoor recreation research has been considerable. During the search for data comparable to the 1977 National Outdoor Recreation Survey, contact with 16 agencies representing six departments of the federal government uncovered 41 surveys conducted in the previous five years. This momentum for federal recreation surveys continues to build since all seven federal land managing agencies are presently planning or conducting new surveys.

Table 3 displays descriptive comparisons among a sample of federal surveys. Some surveys were conducted on site while others were of regional or national scope. A variety of questions has been asked and many survey techniques were applied. The opportunity to identify common data for several time reference points is limited, but on the other hand many questions have been asked more than once. Federal land managing agencies also have a wealth of descriptive data covering their resource areas. Social indicators on recreation opportunities provided by the federal govern-

ment could be compiled easily if reporting standards for descriptive inventories were applied. Such standards have recently been adopted for reporting visitation to federal recreation areas (Federal Recreation Fee Program, 1978). The trouble with using federal visitation figures as a social indicator is that it is difficult and expensive to accurately collect them. As a result, reported visitation figures invariably are viewed with considerable skepticism.

State collected outdoor recreation data

The greatest volume of data concerning outdoor recreation behavior has been collected through surveys sponsored by state government. Statewide surveys have been conducted by 43 states since 1970, including at least one during every year of that decade. These surveys are conducted as part of the Statewide Comprehensive Outdoor Recreation Plans which are required by BOR/HCRS for state participation in the Land and Water Conservation Fund. No attempt has ever been made by BOR/HCRS to encourage standardization of some key elements of these state surveys in order to expedite regional market analysis or suggest national trends. Unfortunately, the utilization of statewide surveys to help establish outdoor recreation trends has never been explored. More opportunity for coordination continues to be lost as 18 state governments are now in the process of planning or conducting new outdoor recreation surveys. Table 4 illustrates descriptive comparisons among 25 statewide outdoor recreation surveys. In every state the primary theme is the establishment of participation rates which are in turn applied to some demand-supply-needs analysis. As is the case with the BOR/HCRS surveys, most of the time spent with the respondents has been devoted to obtaining information for the establishment of participation rates. After all this effort, no consensus exists as to whether these rates are accurate or whether when collected over time they represent trends. The paradox is having the public sector collect such a formidable mountain of data without being able to describe basic behavioral trends. It is out of this kind of sheer frustration that this conference is being held here today.

The state governments typically maintain extensive inventories of recreation related facilities, lands and programs allowing definitive analyses of geographic distribution and accessibility. On the other hand, the detail of information collected and reporting methods are variable and thereby hinder regional analysis and make national analysis virtually impossible. Encouraging progress in coordinating the collection and analysis of statewide surveys and inventory data has been initiated in the northwestern, northeastern, and southeast

sections of the country (Recreation Data Subcommittee, 1975). If this trend toward consolidation of methodology continues, the potential for utilizing such information to establish trend data is most promising.

Commercially collected outdoor recreation data

Unquestionably, the best trend data in outdoor recreation activity available today is provided by the commercial sector. Descriptions of some commercial sector surveys are presented in Table 5. These surveys are generally restricted to reporting incidents of activity participation. The Neilsen Company has replicated its 1973 outdoor recreation survey twice (Table 6); the resulting trend data are probably the most accurate available.

Similarly, manufacturers of outdoor recreation equipment keep records of unit sales. Such data reflect public interest and involvement in many recreation activities. For example, manufacturers were the first to report that the boom in tennis and bicycling had tapered off and that the boom in snow skiing is still strong.

COMMON LIMITATIONS TO ESTABLISHING INDICATORS

Problems arise in attempting to compare results among surveys which are conducted for different purposes and therefore are not exact replications of each other. For instance, the "universe" or population upon which the surveys are based varies considerably according to each survey's purpose. Some surveys sample a cross section of all people within a geographic boundary such as a park, a state, or a region of the country; others may focus on the population of the entire nation. Additionally, surveys may focus only on certain segments of the population such as those people participating in specific activities such as boating, hunting, camping, or fishing.

Sampling methodologies reflect vastly different study purposes and circumstances of time, money, personnel and expertise. Questionnaires are administered in person, via telephone or by mail. Combinations of techniques such as the handout, mail back format are becoming more common. Rarely are rigorous tests made on the effect specific techniques have on the accuracy of the sample drawn. Sample size also varies ranging from 600 to over 20,000 respondents. Data gathered from most surveys are weighted using various schemes to correct for sampling bias. Often these procedures are complicated and not well documented, making data manipulation potentially more difficult

as time passes and as familiarity with the process fades.

Common themes are followed in virtually all outdoor recreation surveys, but it is rare to find questions relating to those themes phrased in the same manner. For example, the number of recreational activity names included in various surveys ranges from 10 to more than 40. What appears as a single activity in one survey may be divided into two, three, or even four activities in another. Definitions of activities also vary among surveys; for instance, is "camping by tent" the same as "primitive camping?"

Another difficulty concerns the variations in time frames used in different surveys to determine from the respondent whether or not participation has taken place. For example: "Have you been camping in the last (seven days, three months, year)?" The longer the recall period, the less likely the response will be accurate.

Data are reported in a variety of formats. Survey reports vary from simple frequency counts on response to the publication of computer printouts of cross tabulations with many statistical tests. Activity participation may be expressed as a simple percentage of the total population, or as specific activity days or participation occasions, all of which may be presented within varying categories of frequency of participation. Tremendous variation also occurs in the way standard socioeconomic factors are categorized. Income, for instance, may be grouped anywhere from three to ten categories.

Limitations associated with comparisons among recreation inventory data sets stem from similar concerns: lack of standard definitions, levels of detail in data description, and fragmented reporting of data.

USES OF EXISTING OUTDOOR RECREATION DATA

Despite the previously stated difficulties in data comparison, there is enormous potential represented by the wealth of unmined data which have been collected.

As the result of the large number of surveys and a large variety of questions asked, most topics of inquiry have been covered in the work. The most obvious example of opportunity for comparative data analysis is activity participation rates. All state and commercial surveys include some type of participation data as do several of the federal surveys. Such a comparative analysis of activity participation rates has recently been published by Dr. Malcolm Bevins of the

University of Vermont who devised trend lines for participation in several activities over time.

Other broad brush trends in outdoor recreation participation can also be portrayed. Trends in the demographic descriptions of recreation participants can be derived showing shifts over time in who is involved in each activity (O'Leary and Paine 1980). Examples of other categories of questions commonly asked are portrayed in Tables 1, 3, and 4. An example of the type of information gleaned from similar questions is portrayed in Table 7 which displays questions on the effect on recreation of gasoline price and availability which have been included in six surveys since the gasoline shortage of 1973.

In order for existing data to be more actively utilized in the policy arena, two conditions must be met. First, the data must be more readily available for analysis and, second, researchers must become more involved in data interpretation for specific policy issues. Significant progress on the accessibility front has been made by the establishment of the National Leisure Archive at the Institute of Social Research, University of Michigan. To date, 30 data sets from questionnaire type surveys on outdoor recreation, sponsored by federal and state agencies, are on file and most new surveys in the planning stages will be entered when the data are available. On the interpretation front, the active use of data from the HCRS national outdoor recreation surveys by researchers at 80 universities around the country constitutes a breakthrough in analysis. It is hoped policy makers will more actively seek out the research community to interpret existing data in terms of specific topical issues on outdoor recreation.

POTENTIAL SOCIAL INDICATORS FOR OUTDOOR RECREATION

Still another, and perhaps the most significant reason indicators for outdoor recreation have not been established in the past is that there is no simple, agreed upon way of measuring the social benefits derived from outdoor recreation. Such benefits from participation, for instance, could stem from personal rewards such as satisfaction from mastering a physical skill, greater physical fitness, relief from stress, a sense of adventure, improved self concept, greater worker productivity, greater family solidarity, change of pace in daily routine, or communing with nature. Obviously, the list could go on.

From this myriad of potential candidates for social parameters in outdoor recreation, which would be the most useful to monitor over time? This difficult question hits at the crux of the dilemma. It is doubtful that social scientists and public policy makers will ever find an answer to such a question through consensus of opinion.

This next section of the paper briefly reviews selected parameters in terms of how extensively data have been gathered on them, how they have been applied to policy formulation, and an opinion as to their future utility in the rapidly changing world of outdoor recreation. This is by no means meant to be an all inclusive listing but rather examples of useful parameters.

Societal changes affecting outdoor recreation include an increase in discretionary time, changing attitudes toward the work ethic and leisure activity, changing family structures, emerging outdoor recreation participation by women and racial minorities, constraints on participants due to high inflation and energy limitations and the growing constraints on public providers of outdoor recreation opportunity.

Indicators we have considerable experience measuring

Considerable data are available for the following outdoor recreation parameters:

Participation rates. As indicated earlier, participation rates are the most commonly collected outdoor recreation parameter and rate comparability among surveys is severely limited by variations in survey methodology, activity names, lengths of recall, unit of measure and context of participation. There is considerable popular interest in participation rates. A commonly asked question is "How many Americans are campers, etc.?" Unfortunately, since participation rates usually are very general in context and their accuracy questionable, their utility in the policy arena is quite limited. Hunting, fishing and camping, for example, are frequently used activity names which are not tied to any particular resource circumstance. Also, participation rates are frequently misinterpreted. Many planners have equated these rates with recreation "demand" in the context of a planning demand-supply-needs analysis. Participation rates are simply a description of consumption which may reflect supply more than public preference. Also, many have attempted to generate predictive "demand" models incorporating resource supply and demographics to predict participation, but the reliability of such models is highly questionable. As a result, participation rates are much more likely to be found in the intro-

ductory remarks of outdoor recreation plans than in discussions at meetings on outdoor recreation policy. Measurement of participation rates will most likely endure in the future due to continuing public curiosity about them. Their interpretation may be most useful when tied to socioeconomic factors to show shifts in outdoor recreation interest across age, sex, education, race and income parameters.

Resource availability and utilization. Most recreation studies and plans incorporate inventories of available resources. Federal, state and local land managing agencies maintain resource inventories. Much effort in most outdoor recreation studies is devoted to the compilation of such information. Also, outdoor recreation visitation records at land management units are usually kept. More and more agency managers are expanding the scope of such information to include more specific information on visitor use patterns, preferences and dissatisfactions. The format of such data bases is quite complicated and the list of areas extensive. Also, a variety of units of measurement are applied. As such, the information is not easily translated into definable parameters of resource availability. The usual application of such material is to portray the geographic distribution and diversity of resource opportunity. While it may be doubtful that a universal method of accounting for resource supply will ever be adopted nationally, efforts are being made by federal land managing agencies to develop and adopt a mutually agreed upon system for inventorying and classifying recreation resources. Such systems are needed for state, local and private lands as well. Until these systems are developed, the portrayal of "supply" as a social indicator will continue to be limited to a rather localized perspective.

If the growth of park systems continues to decline as the population becomes more concentrated and travel more restricted, more will have to be learned about the maximum recreational utility of close to home resources. More emphasis will surely be placed here in the 1980's.

Recreational travel. As portrayed in Tables 1, 3, and 4, several recent surveys have included information on travel to participate in recreation activities. Distance traveled, mode of transportation, nature of the trip and expenses incurred have all been repeatedly asked. If national indicators on travel were to evolve, they would most likely be generated by the U.S. Travel Bureau utilizing their repeated recreation travel study. If energy shortages and inflation continue and there persists a dramatic drop

in National Park attendance and the sales of recreation vehicles, this parameter may be one of the most important to monitor in the 1980s.

Willingness to pay. Recreation benefits have been estimated by measuring professed willingness to pay for access to particular facilities or areas. Out of pocket expenses to pursue activities have also been monitored in surveys and equated to estimates of the public good. The unit of measure in these instances is the almighty dollar, the most universally accepted measure of public good. The degree to which willingness to pay questions can really predict future behavior is debatable as is the appropriateness of money to represent the multifaceted public good generated from outdoor recreation. However, given today's constraints on public providers of outdoor recreation opportunity, the importance of such information is obvious. Pay as you go recreation will probably become a more prominent principle of public policy in the 1980s. More data on this topic will surely be collected.

Satisfaction with experiences. Several surveys have measured people's satisfactions with their recreational experiences. This approach to measuring social good has been more effective at identifying the usually low percentage of malcontents than differentiating the subtleties of degrees and types of satisfaction. Interpretation of such findings are usually abstract, subjective, and not a particularly compelling argument in the policy arena. However, research linking subjective reports of satisfaction with various social, environmental and management elements of the recreation experience would aid managers in their planning efforts. Perhaps more importantly, subjectively reported satisfactions need to be linked to objectively determined social benefits of recreation. More research is needed before activity satisfaction can be described in convincing terms to the practitioner.

Constraints to participation. Some surveys attempt to identify constraints to participation through direct questioning. Although results provide greater insight into needs, the questions usually afford such general response that the need is at best obscure. For example, the 1977 national outdoor recreation survey included such a question (see Table 8). As vague as the results may be, this is the type of question which is more likely to reflect a more comprehensive perception of need than could ever be generated simply by a study of participation rates. In the future, this line of questioning will have to evolve so that needs as perceived by the public can be more fully understood.

Indicators We Have
Little Experience Measuring

The following outdoor recreation parameters would provide valuable insight for the future but, as yet, we have little experience collecting such information.

Unmet expectations for participation. People frequently have preconceived expectations about recreation activity or areas which may relate to any one of a number of things such as scenery, wildlife, cleanliness, condition or type of facilities or type of fellow recreators. As conditions change at parks and recreation areas, the clientele using the areas may change as well. Increased crowding or a change in the type of people using an area, for instance, may go beyond the social tolerance of some people who then no longer visit the park. Their experience expectations were not met by conditions at the area

Measuring such a parameter is most difficult. Attempts at asking point blank questions on unmet expectations has tended to yield superficial results which most likely do not reflect the depth of respondent opinion, but the concept should be pursued in order to assess the preferences of both participants and non-participants.

Benefits from participation. If the constraints on public agencies continue in the 1980s, outdoor recreation will be in greater competition with other social services for public funds. In such an environment, the ability to articulate the variety of benefits derived from outdoor recreation activity made possible by the public sector would be most advantageous. As previously discussed, much effort has gone into estimating recreation benefits. Many approaches have been utilized but the results are frequently challenged. Benefit analyses have focused on quantitative parameters such as a visitor occasions or dollars expended. A challenge to the research community is to define subjective parameters which address both the more personal rewards of participation and the community-wide benefits afforded by recreation opportunity. If such subjectively based parameters were adopted and measured over time, powerful indicators would be likely to evolve.

Substitution of activity environs. If in the 1980s, the mobility of the population continues to decrease while the interest in outdoor recreation continues to expand, the need will grow for developing substitute environments for the outdoor recreation activities which today require substantial mobility for participation. Such insight

would necessitate some appreciation for dimensions of satisfaction derived from participation and an assessment of whether or not those dimensions are transferable from one physical environment to another. Although substitution of recreation environments has not received much attention in the research community, there are indications that it will receive greater attention in the 1980s.

Roles of the public and private sectors. As the decade begins, providers of recreational opportunities from the public and private sectors are approaching the issue from different perspectives. The public sector, on the one hand, is faced with an ever increasing fiscal constraint and thinking and planning smaller. The leisure industry, on the other hand, is picked to be one of the major growth sectors of the 1980s and is thinking big. Equipment manufacturers, recreation facility developers, and near-home tourist attractions are in an expansionary mode. Such a situation would suggest that a shift in some roles will occur between the public and the private sectors. The monitoring over time of such shifts vis-a-vis facility and program inventories could prove to be useful in the policy arena.

ESTABLISHING SOCIAL INDICATORS
IN OUTDOOR RECREATION

One must admit that the picture painted here is a sobering one at best. We have concluded that despite the collection of an immense amount of data over the last two decades, there is no clearly identified set of indicators in the outdoor recreation field. Circumstances which have contributed to this situation include the lack of consistent procedures and types of data collection over time, inadequate reporting of survey results, the difficulties in accessing existing data sets, and the limitations of past efforts to interpret data in terms of key policy issues. Furthermore, the broad perspective of potential human benefits derived from outdoor recreation experiences makes it most difficult to determine an all-inclusive set of measures covering this social good.

While identifying the problems that have impeded the development of an appropriate set of social indicators has been fairly straightforward, making meaningful suggestions for establishing useful indicators of outdoor recreation may be more difficult. As a way of expediting the establishment of such indicators, we offer the following suggestions:

Data standardization

Standardization should be introduced into recreational data collected by the public sector.

Collecting a standard set of core data as part of inventories and surveys would aid in making comparisons between studies and among studies over time. Appropriate candidates for standardization might include the names of recreational activities and facilities and specific demographic characteristics of respondents (participants and nonparticipants). For surveys, an index of commonly asked questions and how they have been phrased would be most helpful. Steps toward implementing such a goal have been initiated by a task force within the U.S. Department of the Interior charged with the establishing standard data elements for outdoor recreation surveys.

Data access

Recreation data should be made more accessible. As mentioned earlier, such an effort has been established for recreation surveys through the development of the National Leisure Archive at the University of Michigan's Institute for Social Research. To date, 30 data sets have been compiled in the archive. These sets have been made available by agencies of the federal government and various state governments. The data archive at the Institute is part of an inter-university consortium which has 240 member institutions world wide; these institutions have free access to the data. A similar type of mechanism needs to be instituted for recreation inventory data.

Data interpretation

Federal and state outdoor recreation policy makers should exert less energy on developing major reports on recreation studies and surveys and place greater emphasis on the interpretation of existing data vis-a-vis specific policy issues. The academic and research community should be called upon more often to contribute their expertise to this process. If policy makers begin to actively seek out information from existing recreation data, the most useful parameters to the policy arena will eventually surface. This process must take place if usable recreation indicators are to emerge. There is obviously no simple mechanism to realize such a goal, so the process will most likely evolve at an undetermined rate through the concerted efforts of inspired individuals.

Define conceptual framework

The research community should address the problem of developing a conceptual framework for categorizing social indicators and for evaluating their importance. Recreation researchers and practitioners come from many disciplines and organizations. Although this

diversity has enriched the field, it has contributed to a lack of organizing principle for developing either a unified body of knowledge of social indicator measures or a methodology for collecting data. Development of such a framework would provide a focal point for future research efforts.

Identify key indicators now

At this time, we feel it is appropriate to offer a challenge to participants of this conference. We believe a special effort can be made to identify one or two key social indicators for outdoor recreation which would be systematically monitored in the future. Very specifically, we suggest that members of this conference "take the bull by the horns" and identify one or two line items for the "Mid-Decade" census and forward such recommendations for consideration by the Bureau of Census. At the very least, such an initiative will awaken those in the social indicator movement as well as ourselves to the fact recreation and leisure are important aspects of life which are influenced by public policy and which need to be understood over time.

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Key to Tables 1, 3 and 4

Date - Year data was gathered

Agency (Table 3 only) - Federal agency sponsoring survey

- BLM - Bureau of Land Management
- BLS - Bureau of Labor Statistics
- BOC - Bureau of the Census
- COE - U.S. Army Corps of Engineers
- DOT - Department of Transportation
- FWS - U.S. Fish and Wildlife Service
- NPS - National Park Service
- TVA - Tennessee Valley Authority
- USCG - U.S. Coast Guard
- USFS - U.S. Forest Service

Administration (Tables 3 and 4 only) -

- I - Work conducted in-house
- C - Work contracted to a consulting firm

Universe Sampled (Tables 3 and 4 only) -

- N - Nationwide sample of general population
- O - On-site sample for a resource area
- R - Regional sample of general population
- S - Statewide sample of general population
- T - Tourist sampled from out-of-state

Cost - Estimated cost to conduct survey

Sample Size - Number of persons responding to the survey

Sample Techniques -

- D - Diary questionnaire
- H - Household interview
- M - Mail questionnaire
- P - Personal interview (face to face)
- T - Telephone interview

Subject (Table 3 only) - Key words of subject covered or of the resource area name.

Age Range (Table 1 only) - Minimum age of respondent

Response Rate (Table 1 only) - % of people contacted that participated in the survey.

Geo. Reliability - Geographic reliability

- C - data stratified by county
- R - data stratified by region
- S - data for statewide only, not stratified

Activities - Number of recreational activities included in the questions asked.

Length of Recall - Length of past time respondent is asked to recall activity participation.

Period Conducted (Tables 1 and 4 only) - months that data was collected.

Question Content - Amount of survey instrument devoted to subject area:

- 0 - not included in survey
- 1 - briefly referred to in survey
- 2 - subject referenced by at least 2 questions
- 3 - subject major emphasis of survey

TABLE 1 - NATIONAL OUTDOOR RECREATION SURVEYS UTILIZED
IN THE NATIONWIDE PLANNING PROCESS

Data	1960	1965	1970	1971	1972	1977*	1977**
Sample Size	3,817	7,194	26,450	3,258	4,029	4,029	13,729
Sample Technique	P	P	M	P	T	T	P
Age Range	12+	12+	9+	10+	12+	12+	12+
Response Rate	89%	91%	78%	81%	54%	54%	95%
Period Conducted	Sept.	Sept.- Oct.	Nov.- Dec.	Oct.- Nov.	Sept.- Oct.	June	Feb.- Nov.
# of Activities	20	28	14	11	31	30	30
# of Activities Strictly Comparable to 1977	15	20	5	5	18	--	--
# of Activities Roughly Comparable to 1977	5	6	7	4	12	--	--
Length of Recall	Summer	Summer	1 yr.	1 yr. except vacation	1 yr.	1 yr.	1 yr.
Question Content:							
Activity Participation	3	3	3	3	0	3	3
Satisfaction	1	1	0	2	0	3	3
Location of Participation	1	1	0	1	1	3	3
Transportation	1	1	0	0	1	1	1
Length of Stay	1	1	0	0	1	0	3
\$ spent	1	0	0	0	1	0	0
Recreation Equipment	1	0	0	1	0	0	0
Deterrence	0	0	0	0	2	3	3
Policy	0	0	0	0	0	2	2
Demographics	2	1	1	2	2	3	3

* National Outdoor Recreation Survey of the general population
** National Outdoor Recreation Survey of recreation on Federal lands

Source: Unpublished Report on the 1977 National Outdoor Recreation Survey

TABLE 2 ACTIVITY PARTICIPATION RATES FROM NATIONAL OUTDOOR RECREATION SURVEYS (PERCENT PARTICIPATION)

Activity	Summer Rates			Annual Rates
	1960	1965	1972	1977*
Picnicking	53	57	47	72
Driving for pleasure	52	55	34	69
Sightseeing	42	49	37	62
Swimming - Pool	45	48	18	63
Other			34	46
Walking for pleasure	33	48	34	
Playing outdoor games or sports	30	38	22	56
Golf		9	5	16
Tennis		6	5	33
Fishing	29	30	24	53
Attending outdoor sports events	24	30	12	61
Other boating	22	24	15	34
Bicycling	9	16	10	50
Nature walks	14 **	14	17	
Bird watching		5	4	
Wildlife and bird photography		2	2	
Attending outdoor concerts, plays	9	11	7	41
Camping - Developed	8	10	11	30
Wilderness			5	21
Horseback riding	6	8	5	15
Hiking	6	7	5 ***	28
Water skiing	6	6	5	16
Canoeing	2	3	3	11
Sailing	2	3	3	
Mountain climbing	1	1		
Visiting zoos, fairs, amusement parks			24	73
Off-road driving (motorcycles/other vehicles)			5/2 ⁺	26
Other activities category	5		24	

- * 1977 National Outdoor Recreation Survey by telephone
 ** Includes bird watching and photography
 *** Includes mountain climbing

Source: Stowell, 1975, p. 104, for summer rates.
 Unpublished Report on the 1977 National Outdoor Recreation Surveys
 for annual rates.

TABLE 3 - OTHER FEDERAL SURVEYS RELATED TO OUTDOOR RECREATION

AGENCY	BUM	BOC	BOC	BLS	COE	COE	COE	DOT	FWS	NPS	NPS	TVA	OSCC	JUSES	JUSES
Date	1977	1977	1972-1974	1974	1973	1976	1976	1975	1975	1975	1976	1976	1974	1970	1975
Administration	I	I	I	I	I	I	I	I	C	C	I	I	I	I	C
Cost (X 1000)	9	4000	1500		87			395	170	5.5	20				
Subject	Desert Plan	Long Travel	Short Travel	Vacation Cost	Nine Site Quality	McClellan Kerr	Urban Use	Access	Hunters Fishers	Smoky Mtns.	Sequoia Kings Canyon	Land Between Lakes	Roaring	Wilderness	Campers
Universe Sampled	N	N	N	N	0	0	0	Boston Atlanta	N	0	0	0	N	0	N
Sample Size (X 1000)	1	14	64	3.3	42	8	8	127	15	1.2	1.6	7.6	24	2.7	2.2
Sample Technique	P	P	P.T	P.T	P	P	P	T	T.M	T.P	H.M	P	T	P	T
Question Content:															
Activity Participation	3	0	0	0	2	2	2	0	2	3	1	3	2	2	2
Satisfaction	1	0	0	0	3	0	0	0	1	2	0	0	0	2	3
Location of Participation	0	3	3	1	0	1	0	2	0	3	0	0	0	0	1
Transportation	0	3	3	1	0	2	0	2	0	0	1	0	0	0	0
Length of Stay	2	2	0	0	0	1	2	0	1	1	1	2	0	1	0
\$ Spent	0	0	0	3	0	3	0	0	3	1	0	0	0	2	0
Recreation Equipment	0	0	0	0	0	2	0	0	0	0	1	0	3	1	3
Petroleum	2	0	0	0	3	2	0	3	2	1	0	0	0	0	2
Policy	3	0	0	0	0	0	2	0	1	0	3	1	0	3	2
Demographics	0	2	2	0	2	2	1	1	2	2	1	1	1	1	1

Source: Unpublished report on the 1977 National Outdoor Recreation Surveys

TABLE 5 - COMMERCIAL OUTDOOR RECREATION SURVEYS OF THE 1970's

	New York Zoological Society	Hawes, Blackwell Talarzvk	National Opinion Research Center	Nielsen	Nielsen	Sindlinger	Nielsen
Date	1970	1972	1973	1973	1976	1977	1979
Universe	N	N	N	N	N	N	N
Sample Size	944	1,015	692	9,600	9,600	4,616	9,600
Sample Technique	P	M	P	T	T	T	T
Length of Recall	1 year	1 year	Last month	From time to time	From time to time	Last week	From time to time
Number of Activities	5	15	12	23	27	28	30

Source: Unpublished Report on the 1977 National Outdoor Recreation Surveys.

TABLE 6 - Participation Trends From Neilson Surveys

(RANKING OF POPULARITY OF PARTICIPATION IN SPORTS MEASURED
1979 vs 1976 vs 1973 Sports Participation Surveys)

Rank	Sport	projected individual participants (000)	% change in projected participants 1979 vs 1976	projected individual participants (000)	% change in projected participants 1976 vs 1973	projected individual participants (000)
		1979		1976		1973
1	Swimming	105,441	+2%	103,503	-3%	107,191
2	Bicycling	69,810	-7%	75,015	+14%	65,613
3	Camping	60,300	+4%	58,102	+7%	54,435
4	Fishing	59,275	-7%	63,901	+4%	61,263
5	Bowling	43,330	-2%	44,434	+16%	38,218
6	Boating	37,920	+8%	35,230	+8%	32,629
7	Jogging/Running	35,727	*	*	*	*
8	Tennis	32,271	+10%	29,201	+45%	20,158
9	Pool/Billiards	31,937	-11%	35,805	+9%	32,920
10	Softball	28,458	+4%	27,268	+3%	26,362
11	Table Tennis	26,908	-16%	32,215	-4%	33,501
12	Roller Skating	25,359	*	*	*	*
13	Basketball	24,048	-7%	25,818	+17%	22,129
14	Hunting	19,711	-4%	20,480	+2%	19,997
15	Ice Skating	18,924	-26%	25,772	+4%	24,875
16	Water Skiing	16,922	+15%	14,681	+5%	14,021
17	Golf	15,897	-4%	16,568	-3%	17,025
18	Snow Skiing	15,397 [†]	+40%	10,999	+42%	7,721
19	Baseball	15,039	-4%	15,670	+3%	15,216
20	Football	14,300	-4%	14,911	+5%	14,247
21	Racquetball	10,654	+283%	2,784	*	*
22	Motorbiking	10,511	+8%	9,734	-14%	11,339
23	Sailing	8,652	+19%	7,271	+4%	6,978
24	Snowmobiling	8,628	-6%	9,204	+19%	7,753
25	Soccer	6,530	*	*	*	*
26	Handball	5,578	+1%	5,546	*	*
27	Archery	5,529	+1%	5,477	-6%	5,847
28	Paddle Tennis	2,431	-6%	2,577	*	*
29	Ice Hockey	1,668	-38%	2,669	-18%	3,263
30	Platform Tennis	405	+120%	184	*	*
<u>Total U. S. Population</u>		<u>214,958</u>	<u>+2%</u>	<u>210,019</u>	<u>+2%</u>	<u>205,950</u>

* Not measured in 1973/1976.

[†] Includes downhill and cross-country skiers.

Source: News Release By The Neilson Company

TABLE 7 - A COMPARISON AMONG SURVEYS OF THE EFFECT THAT GASOLINE PRICES HAVE HAD ON OUTDOOR RECREATION

Year	Survey and Question	Percent
1974	State of Ohio How important is the cost of gasoline in your participation in outdoor recreation?	47% very importa
1975	COE at McClellan Kerr site How has the price of gasoline (shortage) affected your recreation related travel plans? (1975 compared to 1974)	29% fewer trips 28% shorter trip
1976	State of Indiana Has energy or economic changes during the previous year affected your outdoor recreation involvement? How?	38% yes and of those... 59% fewer trips away from home 32% closer to home 29% stopped participating in some activities
1977	State of Arizona (Has) the increase in price of gasoline over the past several years affected how much your family uses (gasoline consuming) equipment for recreational purposes?	44% much or a little less use
1977	HCRS General Population Survey Has the present price of gasoline caused you to take shorter trips for outdoor recreation activities?	49% yes
1978	State of Maryland Has the present price of gasoline caused you to take shorter trips than you normally would for outdoor recreation activities?	42% yes

Source: Unpublished Report on the 1977 National Outdoor Recreation Survey

TABLE 8 - REASONS PREVENTING USE OF PARKS OR RECREATION AREAS
(percent)

<u>Reason</u>	<u>Type</u> ^{1/}	<u>General Population</u>	<u>Federal Estate Population</u>	<u>Percent Point Difference</u>
Lack of time	P	52	52	0
Area too crowded	A	43	40	3
Lack of money	P	37	24	13
Lack of information	A or P	32	12	20
Recreate at residence	P	30	4	26
Area not convenient	A	29	10	19
Area polluted	A	25	8	17
Lack of interest	P	22	4	18
Personal health	P	21	6	15
Area poorly maintained	A	20	10	10
Lack of transportation	P	20	8	12
Area safety problems	A	19	4	15

Note: ^{1/} P = Personal situation
A = condition perceived for Area

Source: Unpublished report on the 1977 National Outdoor Recreation Survey

THE ROLE OF FUTURES FORECASTS IN RECREATION:

SOME APPLICATIONS IN THE THIRD NATIONWIDE

OUTDOOR RECREATION PLAN¹

Meg Maguire and Dana R. Younger²

Abstract. -- This paper provides a quick glimpse into the theoretical applicability and importance of futures forecasting techniques in recreation policy planning. The paper also details contemporary socioeconomic trends affecting recreation, current recreation participation patterns and anticipated social changes which will alter public recreation experiences as developed in the Third Nationwide Outdoor Recreation Plan.

OVERVIEW OF FUTURES FORECASTING
TECHNIQUES AND RECREATION

One of the best ways of discerning meaningful trends in recreation is through use of the techniques collectively known as futures research. Trend analysis specifically and futures research generally are important instruments to make policymakers aware of change and which ultimately help us deal creatively with change. However, the value to be derived from application of a futures perspective to recreation will depend on the degree to which it is possible to anticipate future events and also, the extent to which it is possible to respond to new circumstances. If a society can clearly map out the future, but cannot plan for or react to that future's environment, then it is debatable whether information about the future is of much value.

Where there is a slow rate of change between the past and the future, society can maintain relatively rigid mechanisms

and can largely ignore the future. In such situations, dislocation costs can be spread over a lengthy period of adjustment. As we enter the 1980's, we find ourselves in a situation where the rate of political, technological and cultural change in the world is quickening, and the future is placing its assertive demands on the present. We are entering a period of profound social change which affects recreation as well as the rest of the fabric of American society. The present recreation picture is changing rapidly and future patterns are likely to be equally divergent. The ability of our society to adapt to meet these new social needs hinges not so much on sophisticated technological innovation as on institutional and societal innovation.

¹ Paper presented at the National Outdoor Recreation Trends Symposium, Durham, NH, April 20-23, 1980.

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In order for futures research in parks and recreation to have any impact, it must succeed in re-orienting decisionmakers away from short-term, reactive planning. Most decisionmakers place highest priority on those factors which relate to the immediate consequences of their actions while ignoring long-term consequences. Herbert Kahn (1967), perhaps the dean of futurists, suggests that the objectives of futures research should be, "...to put policy-makers in a position to deal with whatever future actually arises; to be able to alleviate the bad and exploit the good."

While we may not agree with Epicurus that, "No means of predicting the future really exists," we must recognize that our tools of prediction are crude at best. Nevertheless, the challenge of planning for the future is such that we must proceed regardless of the limitations of our current techniques. We must also recognize, as many futurists already have, that futures research and trend forecasting are more of an art than a science. As Solomon, Marstrand and Page (1975) point out in their lively book, The Art of Anticipation, "Forecasting is an uncertain exercise, plagued with fallacies, uncertainties and ignorance. It cannot aspire to be called a science and it must avoid the dangers of pseudo-science. It requires an imaginative synthesis between what is known and what is indefinite. This is properly described as an art or a craft."

To summarize, the art of future speculation can offer glimpses of symptoms of the future which can alter the perspective of decisionmakers -- to encourage them to invest in decisions which will deal with future conditions as well as present or past conditions. This preparedness for future events has become more relevant now than it was in the past, due to the current rate of change which increases the need to make decisions about diverse conditions and increases the costs of bad decisions and non-decisions for society. The park and recreation movement is a vital part of society and includes people who believe in improving the quality of life. To believe in this concept and to operationalize it requires that individuals bring flexibility into existing institutions.

APPLICABILITY OF FUTURES FORECAST IN HCERS RECREATION POLICY PLANNING

The creation of the Heritage Conservation and Recreation Service (HCERS) in 1978 reflected such a commitment on the part of the Carter Administration to improve the making of public policy for recreation, natural resource protection and historic preservation. Advocacy of the National Heritage Policy Act; protection of Barrier Islands; improved administration of both Federal and State sides of the Land and Water Conservation Fund; implementation of the Urban Park and Recreation Recovery program; and preparation of the Third Nationwide Outdoor Recreation Plan all indicate HCERS's attempts to anticipate future needs.

However, futures forecasting has different meanings and operates toward different goals depending on the level at which it is developed. Obviously, the forecasting needs of an individual park manager are very different from those of an administrator responsible for overseeing many varied facets of park and recreation planning. Strategic long-range planning and policymaking in HCERS's business requires some indication about what conditions will prevail several years hence.

The most important requirement of such long-range futures forecasts is that they capture the unexpected. Many things will certainly continue in rather predictable patterns. However, it is the unexpected development, often produced by the interaction of predictable existing patterns that is most elusive. The value of these more speculative types of long-range futures forecasting is that they attempt to predict the "unpredictable" types of events which have sweeping effects on established trends. The techniques used in these exercises are usually based on more imaginative, subjective processes as opposed to structured, quantitative ones.

It is difficult to know how to recognize a valid forecast amidst the many wild guesses. However, the main value of long-range forecasts is not in their accuracy. There are simply too many intervening events to be able to describe

with any great degree of precision what, for example, the nature and use of national parks will be in twenty-five years. The value of long-range forecasts and studies of recreation trends lies in their ability to sensitize planners and policymakers to the ranges of possibilities that await them just beyond the horizon of what can be predicted or foreseen. Although accuracy in terms of timing and magnitude of events is desirable, the prime objective of long-range futures forecasting is to reveal the full spectrum of possibilities that might be realities in five ten, twenty or thirty years.

This is particularly relevant to those of us in the Federal government who are guardians of the public trust in administering public lands for park and recreation purposes. We have the responsibility to ensure that the public values presently preserved and enhanced on these lands survive to be used and enjoyed by future generations. Forecasting is also important because the development of a single park, from first conception, through land acquisition, to eventual recreation development may take up to twenty years to complete. Long-range forecasting will become even more relevant to park planners and managers in years ahead as fiscal compression increases, as our nation's natural environments are depleted and transformed, and as all basic land use decisions take on still greater importance.

Keeping in mind that each of us will spend the rest of our lives in the future, many of us actively shaping recreation policy, we would like to share with you some of the insights and accomplishments of our new Nationwide Recreation Planning Process, which culminated on December 11, 1979 with the President's transmission of the Third Nationwide Outdoor Recreation Plan to the Congress. Within the limits of existing information, this Plan's Assessment sought to discern many trends in contemporary recreation, and to anticipate future trends. The Plan's Action Program developed responsive policy options to ease the transition of recreation into the future in America.

Before proceeding with a discussion of the findings of the Plan's Assessment, it is important to say a word about the data sources used in this document, as well as

about the general limitations on data in the park and recreation field. Inconsistent or nonexistent data bases place real limits on the degree of accuracy that is possible in trend analysis.

As you are perhaps all well aware, data collection and evaluation in the park and recreation field are not as strong as they should be. At the national level, data is incomplete, out of date, or simply unavailable. There is also wide variation between agencies and recreation professionals over what quantitative and qualitative measures are most appropriate as indicators in the recreation field. The long-standing debate over qualitative recreation output measures epitomizes this problem.³ Therefore, the production of accurate, longitudinal data on recreation and its relation to important national concerns is a critical long-range need.

Variability in available data bases and their aggregation made the preparation of forecasts for the Assessment somewhat problematic. Nevertheless, in the relatively short time frame of two years, a compilation of the best available information was made. We were forced to rely heavily on non-park and recreation sources for key trend information. First and foremost, however, we used data from the latest Nationwide Outdoor Recreation Survey, completed in 1977. The data collected during the survey show the relationship between

³ In the area of quantitative measures, while agreement now exists among Federal recreation agencies to use "recreation visitor days" or "visitor hours" as the basic unit of recreation output measurement, there is still no standardization of data collection techniques. In the area of qualitative measures, there is considerable disagreement as to how to measure the quality and cost-effectiveness of recreation outputs. While some qualitative values can be measured in economic terms, noneconomic benefits pose difficult measurement problems. These and other related problems were discussed at a recent "Workshop on Recreation Output Measures" held December 11 - 14 at Harper's Ferry, W. Va. The workshop proceedings will be published sometime during 1980. [personal communication, Beverly L. Driver, USDA-Forest Service Experiment Station, Ft. Collins, Colo.]

certain socio-demographic variables such as age, sex, education, income, etc. and rates of participation in selected outdoor recreation activities. One component of the survey involved a subsample of 14,000 interviews with visitors onsite at 155 Federal recreation areas. Many of you may be interested in the findings which compare public recreation use between the different recreation-providing Federal agencies.

In addition to survey data which was analyzed and interpreted, significant trend information was distilled from various reports prepared by the U.S. Census Bureau on such parameters as population projections, geographic mobility, family size, etc. Planning studies, research reports and data provided by the key recreation-providing Federal agencies were studied for evidence contributing to trend analysis. Reports and policy documents from other Federal agencies were also scrutinized. Significant recent findings of the Departments of Labor; Health, Education and Welfare; Transportation; Agriculture; Commerce; and others were included.

In the next few years HCRS will seek to improve still further the collection and analysis of meaningful data on national recreation trends. While improved data collection will clearly benefit many in the park and recreation field, at least part of the argument for more refined data is based on a somewhat selfish motive. If we assume that more decisions will be subjected to powerful public and political scrutiny, then we need refinements in the policy planning information base in order to help withstand criticism.

CURRENT TRENDS IN RECREATION

The number of participants in outdoor recreation has grown substantially, and their demographic make-up has changed to include people with significantly different social and economic backgrounds than those of recreationists in years past. The qualitative changes in the recreating population reflect more than just a higher standard of living and expanded leisure time; they can also be attributed to a redefinition of society's values, new economic forces, and advanced technology. Recreation managers and policy makers must be aware of these evolutionary cultural changes if they hope to grasp

the nature of contemporary recreation trends and their implications for the future.

Numerous changes in the number, location, character, and recreation interests of America's recreationists are occurring and will be likely to continue for the next ten years. The 1977 Nationwide Outdoor Recreation Survey reveals that recreation continues to be an activity of great importance to most Americans. Eighty-six percent of Americans surveyed indicated that recreation remains one of their most important interests. Other surveys show that some 90 million adult Americans engage in recreation activities on a regular basis.

The latest available figures also show that recreation is of tremendous importance to the national economy. Recreation expenditures now account for nearly \$200 billion. This amount dwarfs the five to seven billion dollars of Federal, State and local public expenditures spent annually on recreation. Nearly \$1 out of every \$8 spent by consumers went for recreation. In addition to its burgeoning economic impacts at both national and regional levels, recreation contributes significantly to maintaining the physical and mental health of Americans. This contribution is only beginning to be adequately appreciated.

The sharpest changes in recreation participation in the future are due to broader underlying demographic trends. Our nation's population is aging steadily and future recreation planning must adapt to meet new demands. The median age of Americans will rise steadily over the next twenty to thirty years as the post-World War II "baby boom" age cohorts move into maturity. The median age will top 30 years in 1980 and reach 35.5 by the year 2000. All of this will bring important changes in recreation. Birth rates are expected to remain low, so that the numbers of those in so-called "prime recreational years" from 12 to 25 will continue to decline through the year 2000. However, the increasing emphasis on physical fitness will likely extend the life cycle of popularity for many activities even past the traditional ages of declination.

Inevitably, recreation planners will face the needs of an older population which is

healthier, interested in recreation, retiring earlier, living longer, and one with more available income than its predecessors. The Census Bureau reports that 65 year olds now exceed 23 million and projections indicate that this age group will increase by one-half million individuals per year over the next decade. While the recreation market for the elderly will sharply increase, many cities are still having difficulty providing adequate senior citizen recreation programs. More outreach and special transportation services are especially needed.

Recreation planning must also respond to changes in the population's location. The Census Bureau has documented the shift in population from older, industrialized areas of the Northeast and Midwest to Sunbelt States. These areas are expected to grow twice as fast as the Northeast and North Central States in the next twenty years. There is also a perceptible "back to the city movement" in many urban core areas, and more Americans than ever before, some 72 percent, make their homes in urbanized areas. This trend will continue to put pressure on park and recreation systems to expand their land and facilities in new, growing areas and to maintain existing land and facilities through innovative measures in declining areas.

Other important socioeconomic trends affecting recreation include the following. The average household size is declining, divorce rates and the number of unmarried couples continue to grow simultaneously, all impacting the family unit, traditionally the mold of an individual's recreation participation. Today, there is a greater need than ever before for recreation to play a stabilizing role, to provide a sense of community and family for those lacking this structure.

There are also substantial increases in the pursuit of high-risk recreation activities among young adults. Sports activities such as rock climbing, hang gliding, scuba diving and off-road vehicle use are examples of this trend. Sociologists' attribute these tendencies to technological innovation in recreation equipment and the psychological benefits accruing to participants, such as relief from stress and boredom.

Sex-related differences in recreation participation are rapidly diminishing. More women than men are now starting many recreation activities. This sex-based equality

is particularly evident among the young where women are actively participating in many sports traditionally dominated by men. Women's participation in high school and college athletics is also showing steady growth spurred by Title IX. This trend will likely boost still further the sales of recreation equipment, particularly for those products directed to women's markets.

Other factors likely to affect recreation in the years ahead are income levels. Rising amounts of disposable income have fueled the current leisure industry boom and there is good evidence that expenditures for recreation and leisure activities are rising even faster than consumer spending as a whole. Although real income levels may taper off due to inflation and stagnant productivity, a countervailing trend is the growth of dual income households.

Americans also have more leisure time now than ever before, and are better educated than at any previous time in our nation's history. Much of this additional leisure time is being devoted to recreation and there is a clear correlation between higher educational levels and greater recreation participation. Americans now have larger blocks of holidays and vacations in part due to smaller families, a shorter work week, and time-saving technological innovations. There has also been a continuing decrease in the proportion of an individual's life spent at work, a trend supported by extended schooling periods, earlier retirements and shorter working hours. Results from the 1977 Nationwide Outdoor Recreation Survey show that participation in recreation activities will continue to diversify and grow. According to data on new starts, the ten activities showing the fastest growth are: cross-country skiing, downhill skiing, tennis, sailing, snowmobiling, water skiing, canoeing/kayaking, golf, off-road vehicle use, and horseback riding. Similarly, those with the highest potential for growth are: downhill skiing, tennis, water skiing, horseback riding, cross-country skiing, tennis, primitive area camping, sailing, golf, snowmobiling and canoeing/ kayaking.

Our colleagues in the USDA-Forest Service (1980) have come up with projections of recreation participation stretching out to the year 2030 which show that while recreation will grow substantially, snow-based recreation activities will grow the fastest, followed by water and then land-based activities. Factors such as the antic-

ipated growth in population, income, and education all contribute to the projected increases in outdoor recreation participation. However, these increases will not be as great as the extremely large growth in participation experienced during the 1960's. Several factors which may further dampen these growth rates are: the population's changing age structure and rising energy costs.

Our analysis in the 1977 Survey of Federal estate visitation to national parks, forests, wildlife refuges, recreation areas, historical sites, Corps of Engineers lakes and reservoirs, and other Federal resource lands, clearly shows that users of Federal recreation areas are not a representative cross-section of the general population. Users of the Federal estate have higher levels of income and education, and are considerably older than their average counterparts in the general population. This disparity is most evident for visitors to National Park System sites (HCRS, 1980).

Also, since most Federal recreation areas are located more than 100 miles from the majority of the American population, a significant percentage of Americans cannot easily reach Federal recreation areas regardless of whether the areas are located in the West or the East. The 1977 Survey shows that these travel distances vary dramatically among the ten Federal regions. The Survey also shows that recreation on the Federal estate is largely a group activity, and that most groups contain children. In addition, the larger a group is, the more likely it is to stay at the site for an extended visit.

The reasons visitors choose particular Federal areas vary dramatically. Corps of Engineers' visitors cite the availability of good facilities; Forest Service users cite scenic beauty; and National Park System visitors are most likely to cite a desire to visit new areas. The most popular activities at Federal recreation areas are closely related to natural features of the landscape, with sightseeing and camping topping the list.

Users of the Federal estate share a similar concern with the general population over lack of time and crowded conditions as the key constraints or deterrents to participation. Of those expressing dissatisfaction with the Federal estate, half of all complaints centered on facilities. Many of the

unmet expectations expressed by visitors, such as low water levels in reservoirs or inability to view wildlife, cannot be readily corrected by agency managers.

While many of the projections for recreation point to increasing although moderate growth, recent developments concerning energy costs cast doubt on these forecasts. Recent oil price increases, last summer's spot shortages, and the prospect of still higher prices, inflation, and intermittent shortages for the foreseeable future lessen the chances for sharp growth increases in outdoor recreation. Although verified quantitative relationships have not yet been fully established, economic analysis of fuel costs and the amount of travel undertaken indicates that a negative or inverse relationship exists (Goeldner et al. 1975). Since most Federal and regional destination recreation areas are oriented to visitors traveling by private car, use levels will continue to respond to gas prices and supply effects. The best current evidence suggests that future increases in recreation participation will be determined, as many other items in the consumer budget will be, by the relative price and income elasticities of household energy and travel expenditures. Energy problems will also affect public park and recreation management.

While personal mobility increased tremendously in the past three decades, the 1980's loom as a period of adjustment to scarcity of available energy resources and pose the imperative to utilize energy more efficiently. Other key trends in recreation as a result of energy instabilities include the following. Fuel costs will rise and supplies will tighten still further. All facets of recreational travel will become more expensive. The public will take fewer and shorter recreation trips. More recreation will take place at alternative sites close-to-home. Lower and middle-income groups will be affected most severely by higher prices and reduced mobility. Demand for alternative transportation modes to recreation opportunities will increase, particularly for transportation to remote recreation areas.

Reductions in visitor use of more remote national parks, national forests and other congressionally designated recreation areas is particularly likely. Adverse effects will also occur at those parks or recreation areas that feature energy-intensive forms of recreation. The economic effect of such use reductions will strongly affect the

travel and recreation industries. Conversely, substitution effects will increase visitor pressure and public demand at large urban or regional parks as well as at those recreation areas which are within 100-300 miles of major metropolitan areas.

The public is also likely to take more group-type vacations. There will be increased recreation planning attention for those who cannot afford cars; and increased development of, and consumer investment in, more efficient recreation vehicles and automobiles. Experts also expect a return to destination-type recreation facilities and a consequential concentration of travel patterns.

It is probable that the national search for new energy sources will degrade the quality of some recreation areas and increase pressure to allow energy resource exploration and development in wilderness areas, national parks and other protected lands. Park and recreation agency involvement with energy conservation and alternative energy resources to help meet operating needs will also increase.

While all of the Assessment's trend data cannot be summarized in this limited paper, other important trends affecting recreation as analyzed in the Assessment are also briefly developed. In the area of government park and recreation services, fiscal constraints will cause reductions in staff and curtailment of programs. The price of prime recreation land will continue to rise and funds available to purchase lands will fall short of demand, particularly in urban areas. There will be increased development of more innovative less-than-fee land protection and acquisition techniques as well as greater imposition of recreation fees. Provision of economic incentives to motivate land owners to open lands for public recreation will grow and innovative urban recreation spaces will be utilized increasingly; for example, waterfront redevelopment, industrial area reclamation, and redesign of deteriorating parks. There will be growing recognition of interdependence between private and public sectors, producing a rethinking of traditional business relationships, including changes in concessions policies, and increased reliance on government use of contractual services. Construction of new facilities which lack long-term operations and maintenance commitments will probably decline, while better techniques of fiscal management in recreation administration rapidly develop.

For natural resource management, the future looms as a time of better understanding of ecological factors affecting resource-based recreation areas. There will be greater reliance on park, forest and land inventories to grasp resource management challenges. Resource managers will be better trained in integrated management to help cope with multiple use conflicts and carrying capacity limits. However, there will be increased control over public recreation usage in natural and developed recreation resource areas through time and space rationing. Greater conflicts between recreation and non-recreation uses of lands, and heightened conflicts between different types of recreation users are also likely. Some decline in the quality of recreation experiences due to congestion and over-crowding will probably occur although public recreation activities such as nonconsumptive uses of wildlife will continue to grow.

Several changes in public participation in park and recreation agencies are also likely. Institutionalization of improved public participation processes will occur at the local level. There will be greater involvement by private non-profit groups in the provision of public recreation services through contractual arrangements. Involvement of volunteers, the handicapped, the elderly, and minorities in the design of recreation services and the management of services will grow. There will also be greater information dissemination to the public and the institution of new public input mechanisms in the Statewide Comprehensive Outdoor Recreation Planning process.

The growing diversity in public recreation demands caused by market diversification, specialization, and segmentation will affect the private sector in years to come. The private sector is likely to play a still greater role in meeting new recreation demands. The private sector will increase technological innovation in recreation equipment to conserve energy and raw materials while simultaneously enhancing the public's recreation experiences. Foreign tourism will grow even more due to favorable exchange rates and the range of America's scenic, recreational and historical attractions. There will also be an increase in industrial recreation or opportunities at the workplace due to recreation's positive effects on productivity.

CONCLUSION

While all the trends and issues described in the Third Nationwide Outdoor Recreation Plan's Assessment are not repeated here, it is clear that more precise information about the future is still needed. Accurate long-range forecasting will require availability of adequate time and resources to do the job conscientiously, and managerial commitment to the use of forecasting as a means of keeping sensitized to the need for changes. While we are beginning to get a better grasp on many of the structural trends unfolding in recreation, more information is still needed. There is a great need for better "user-needs" assessments to reveal latent public demands. Better data on regional recreation differences is also needed so as to anticipate the spatial distribution of new recreation demand.

Despite many pessimistic projections, these are dynamic times for recreation and creativity is essential to galvanize future actions to strengthen and support recreation. Recreation has increased stature in public policy discussions due to the growing use of recreation and park development to meet economic objectives, community revitalization and health promotion needs, among others. Even though Epicurus was right when he said, "No means of predicting the future really exists," futures forecasts are one important tool to help illuminate future trends and possibilities for policymakers. The projections of recreation's importance in the 1980's, developed for the Third Nationwide Outdoor Recreation Plan, leave one with reason for optimism despite the difficult challenges they pose for public recreation agencies.

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TREND INDICATORS NEEDED FOR EFFECTIVE RECREATION
PLANNING--A STATISTICAL BLUEPRINT FOR THE 80's ^{1/}
H. Fred Kaiser and George H. Moeller ^{2/}

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.

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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

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:

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

Furthermore, 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: 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.