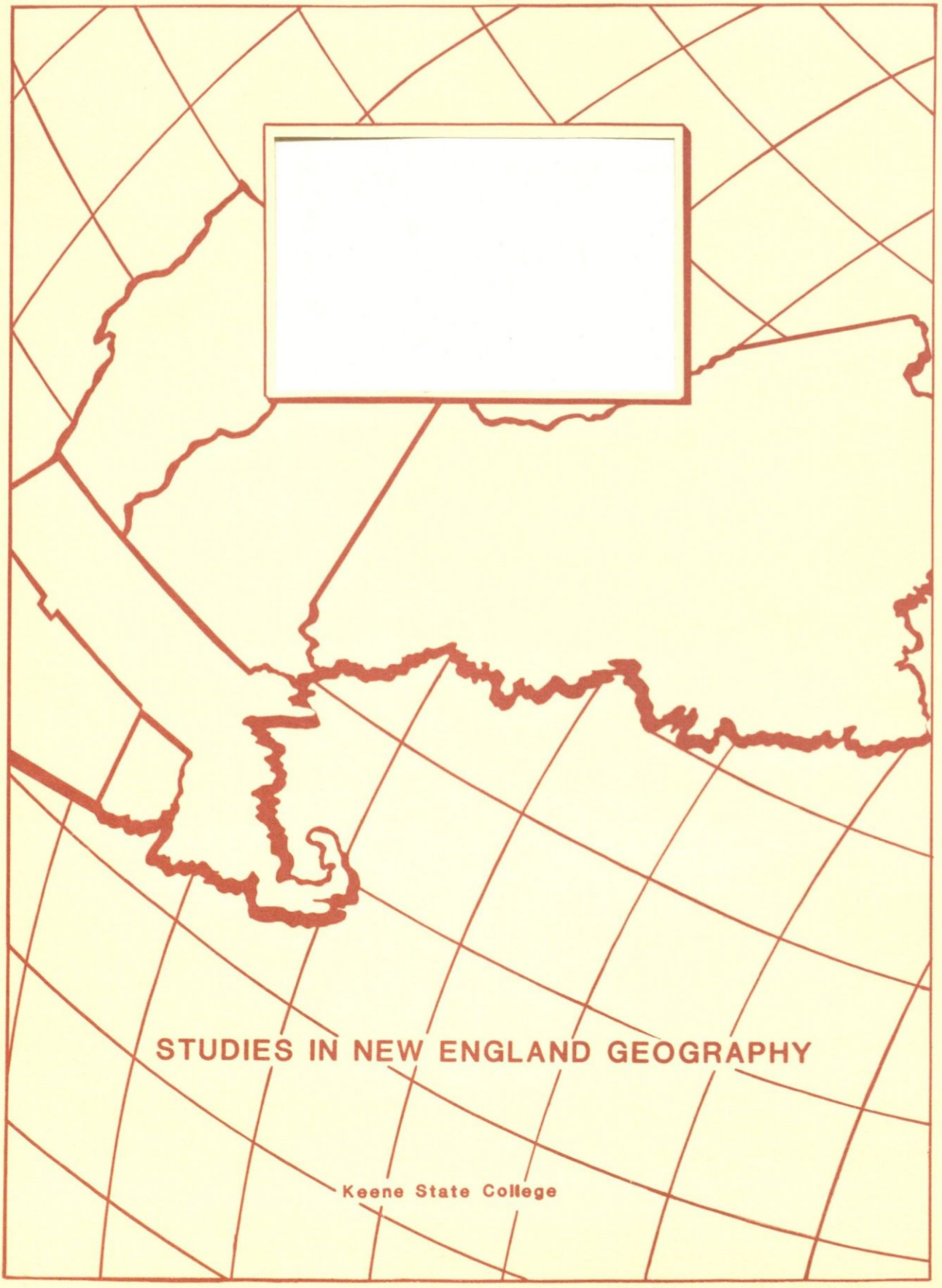

STUDIES IN NEW ENGLAND GEOGRAPHY

Keene State College

RECREATIONAL PREFERENCES AMONG STATE PARK USERS IN NEW ENGLAND: A CASE STUDY OF THE MASSACHUSETTS STATE PARK SYSTEM

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Y.M.N.

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INTRODUCTION

Geographical research has been widely used in recreation studies, including the identifying, describing, and comparing of participant subgroups; activity characteristics; and perceptions, attitudes, preferences, motivations, and satisfaction (Jackson and Schinkel 1981, 350; Cranz 1982, 183; Bristow 1989, 2; and Jackson 1989, 80). Behaviorally oriented research may help to inform recreation planners of the activities and conditions preferred by their clientele. Jackson and Schinkel (1981) emphasized the importance of showing what users prefer rather than what recreation managers believe users prefer. Smith (1983, 88) suggested that the analysis of the perceptions of potential users of alternative destinations is as important as the analysis of reality. In a sense, recreation resources exist only in the minds of their users.

This study investigates and explains the perceptions and value systems of state park users in Massachusetts. It first reviews the historical development of the state parks system in the Commonwealth and presents the research approach and the selection of parks for the field survey. It then briefly describes the physical and recreational characteristics of the five recreational regions of Massachusetts and finally focuses on the research methodology and presents the findings concerning user characteristics and residential origins, recreation participation rates, and perceptions toward recreation quality and levels of satisfaction.

HISTORICAL DEVELOPMENT OF THE MASSACHUSETTS STATE PARK SYSTEM

The Massachusetts state forest and park system was created in 1898 with the acquisition of 8,000 acres in the western part of the state surrounding and including 3,492 foot-high Mt. Greylock, the state's highest peak. By the

1990's, the state forest and park system has expanded to include more than 260,000 acres out of the state's total of 5 million acres. Massachusetts now ranks seventh in the nation for its acreage in state parks.

The state park system consists of 173 facilities that run from Cape Cod in the east to the Berkshire Mountains in the west. These facilities receive more than 11 million visitors each year in a state whose total population is 5.7 million. Obviously therefore, many people from outside the state visit these parks, particularly during the summer. A listing of these facilities is shown in Table 1. These properties include many miles of roads and hiking trails, plus many buildings, monuments, and campgrounds. Many of the areas include elements of natural, historical, and cultural significance, representing, according to the State Department of Environmental Management, an irreplaceable public trust worth hundreds of millions of dollars.

Table 1

State Recreational Facilities in Massachusetts

State Facility Type	Number Statewide	Total Acreage
Forests	74	205,197
Parks	38	28,283
Natural Areas	10	15,342
Recreation Areas	5	7,940
Trails	2	1,870
Beaches (Ocean)	5	1,860
Historic Areas	2	959
Rinks and Pools	37	147
TOTAL	173	261,598

The diversity and beauty of the Massachusetts landscape are represented by such state parks and ocean beaches as Salisbury in the north and South Cape in the south, and mountains with great vistas such as Mt. Greylock, Mt. Wachusett (with downhill ski trails), and the Holyoke Range in the Connecticut River

Valley. Large freshwater lakes such as in Lake Cochituate State Park are also represented in the system, as are scenic rivers such as in Merrimac River State Park. Other scenic and historical parks include Walden Pond and the Boston Harbor Islands. Large forest parks include Myles Standish and Harold Parker. Finally, the state parks system includes urban heritage parks, the most famous of which are in the cities of Lowell and Fall River, the birthplaces of the American Industrial Revolution.

Since 1898 the first efforts at preservation focused on land conservation of "wastelands" resulting from poor forest practices or forest fires. In the 1920's, the Department of Conservation was established and began to focus on acquiring scenic natural areas for state parks. The depression years of the 1930's allowed much conservation work to be done in state forest and park lands, both by state work crews and by the federally subsidized Civilian Conservation Corps. Without these combined efforts, Massachusetts would have only a fraction of its present park and forest recreation opportunities.

After World War II, the boom in outdoor recreation began. In 1957 the State Department of Conservation became the Department of Natural Resources. Producing the first recreation master plan for the use of parks and forests, the department stressed the need for more recreation areas. In 1969 citizen advisory councils were established for planning uses at several major state parks. In 1975 the Department of Natural Resources became the present-day Department of Environmental Management with custody over nearly all state-owned forests, parks, beaches, lakes, pools, flood management areas, and timberlands. All of these areas are used for either passive or active recreation.

The main division of the Department of Environmental Management is the Forests and Parks Bureau of Recreation, whose energies are devoted to enriching the passive and active recreation opportunities for residents and visitors.

Although most of the division's major parks and forests were acquired before 1960, increased urbanization and demand for open space recreation in the 1970's and 1980's have led the division to acquire new lands that will protect coastal resources, inholdings and parcels next to existing parks, scenic and unique natural areas, and lands that contain habitat for rare and endangered species.

To better administer these diverse holdings, the Department of Environmental Management has established five regions within the state. For example, the Framingham-Natick area has two state parks: Lake Cochituate, offering such active recreational activities as swimming, boating, and picnicking; and Callahan Park, which focuses on more passive hiking through forested lands. These two parks fall within Region 2, which also includes the city of Boston and the Boston Harbor Islands State Park -- a group of state-owned islands extending from Boston Harbor into Massachusetts Bay. Hourly ferry sevice to several of these islands in summer provides a unique recreation resource for three million residents of the Boston metropolitan area.

RESEARCH APPROACH AND SELECTION OF PARKS FOR FIELD SURVEY

The initial work on this project involved collecting and reviewing a variety of plans, reports, maps, brochures, and materials pertaining to topography, ecologically sensitive areas, historical areas, population growth and distribution, utility service areas, and planning and development trends of Massachusetts state parks. We obtained these materials from the Massachusetts Department of Environmental Management (DEM), Division of State Forest and Parks, in Boston. We have also reviewed books and journal articles relating to state and national parks.

To obtain information about the perceptions and values of state park visitors, we employed a site questionnaire survey, which sought information on visitor demographic, socioeconomic, and recreation characteristics. By using the DEM's five recreation regions, we could aggregate data on perceptions, value systems, and recreation activities into manageable units. We chose DEM's recreation region boundaries because they coincide with one or more of the following characteristics:

1) City and town administration boundaries
2) Homogeneity of landscape features within each region
3) Homogeneity of demographic and socioeconomic characteristics within each region
4) Primary and secondary road networks within each region
5) Scenic and unique natural and historical features within each region (mountains, lakes, beaches, gorges, waterfalls, historic sites, and war memorials)

Three editions of the Statewide Comprehensive Outdoor Recreational Plan (SCORP) over the past 12 years have grouped the Commonwealth's cities and towns into study regions most meaningful to planners and administrators in a variety of agencies and organizations. In 1978 the SCORP incorporated 13 study regions across the state. This high number for a relatively small state was later seen as overlapping and duplicative, so the 1983 SCORP reduced the number of regions to five. In 1988 the five regions were increased to seven by separating the Boston MDC District and also the Cape Cod and Islands region. The two new regions were created to obtain input from the MDC Parks Department and from citizen groups and nonprofit organizations on Cape Cod and the coastal islands.

Despite the expansion from five to seven regions, the DEM still focuses many of its studies on five regions and still maintains five regional park headquarters across the state. Because this study is conducted in direct consultation with the DEM, we use five study regions as delimited in the 1983 SCORP as the most concise in its coverage of the main types of DEM-managed parks across the state. Furthermore, these five regions, as shown in Figure 1,

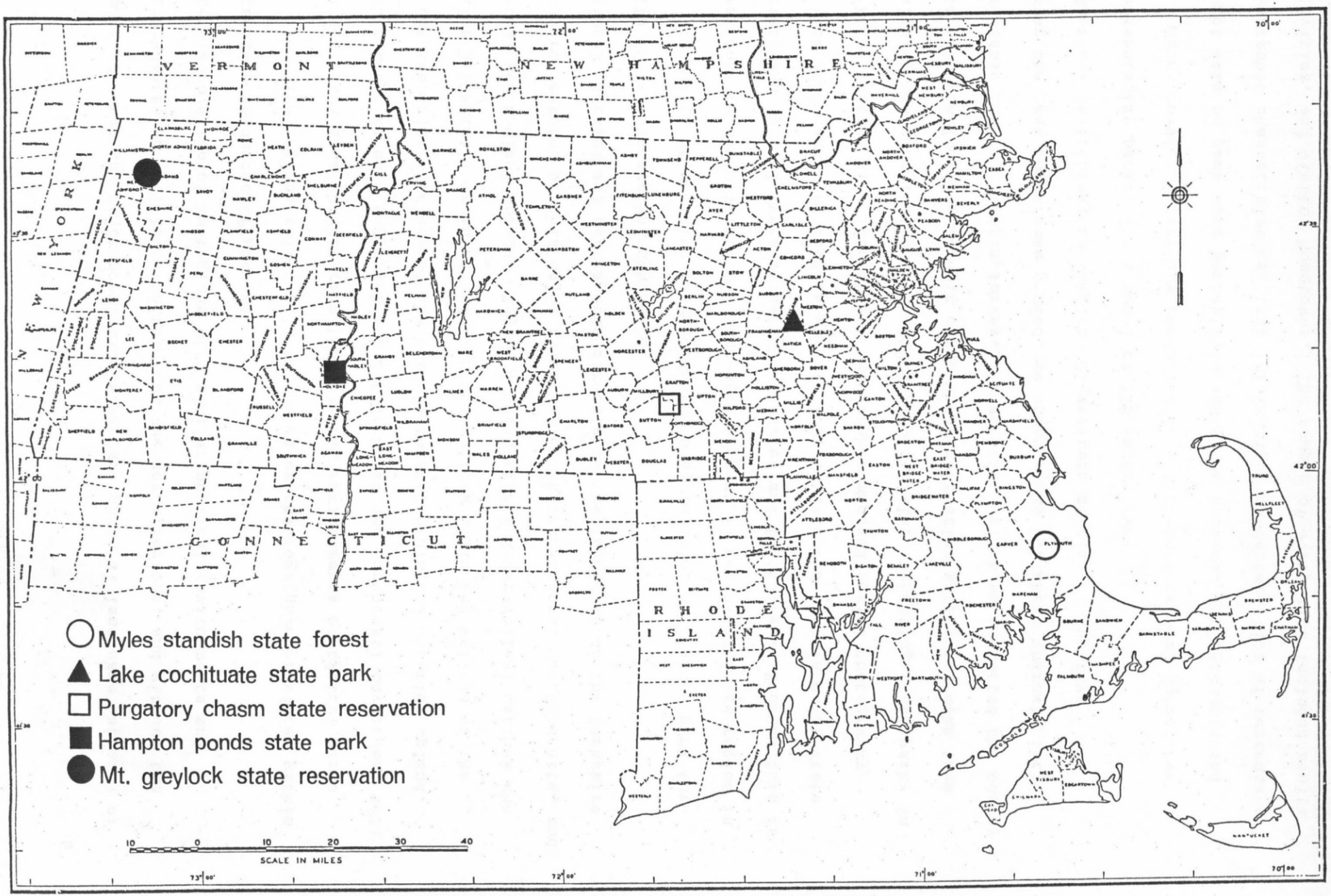


Figure (1) RECREATION REGIONS AND FIELD SURVEY SITES

appear to cover the major population zones and physical landscape patterns of Massachusetts as well as or better than the seven regions, and without the potential overlap of subregions with similar physical environments and recreation resources (Figure 2).

The five regions relate well to the major physiographic provinces within the state and thus characterize the physical environments of typical parks within these zones. Regions 1 and 2 (Northeast and Southeast) correspond well to the two major sections of the state's coastal plain and interior upland. Region 3 (Central) is in accord with the rolling hills and valleys of the central New England upland. Region 4 (Connecticut River Valley) matches the landform features of this major river valley in west-central Massachusetts, and Region 5 (Berkshires) corresponds directly to the landforms of the Berkshire Hills in far western Massachusetts.

From each of the five recreation regions, we selected a state park for questionnaire administration. Each park (Figure 1) represented its region in variety and special types of natural features and facilities. Because this is a pilot study and more studies will follow, we selected certain major state parks by initial site inspection, topographic map and aerial photography analysis, and consultation with DEM park officials. Selecting state parks in this manner allowed us to omit parks whose recreation activities make them unsuitable for this sample survey. In addition, since we conducted the survey during the peak summer-use period, we chose parks for their characteristic summer-use facilities; we sampled 105 visitors at each of the five representative parks, for a total of 525 interviews.

Using on-site interviews conducted in a face-to-face oral format, we sought data on park user perceptions and value systems, socioeconomic and demographic characteristics, trip information, characteristics of recreation activities, and visitor hometowns. The sample of every site included adults

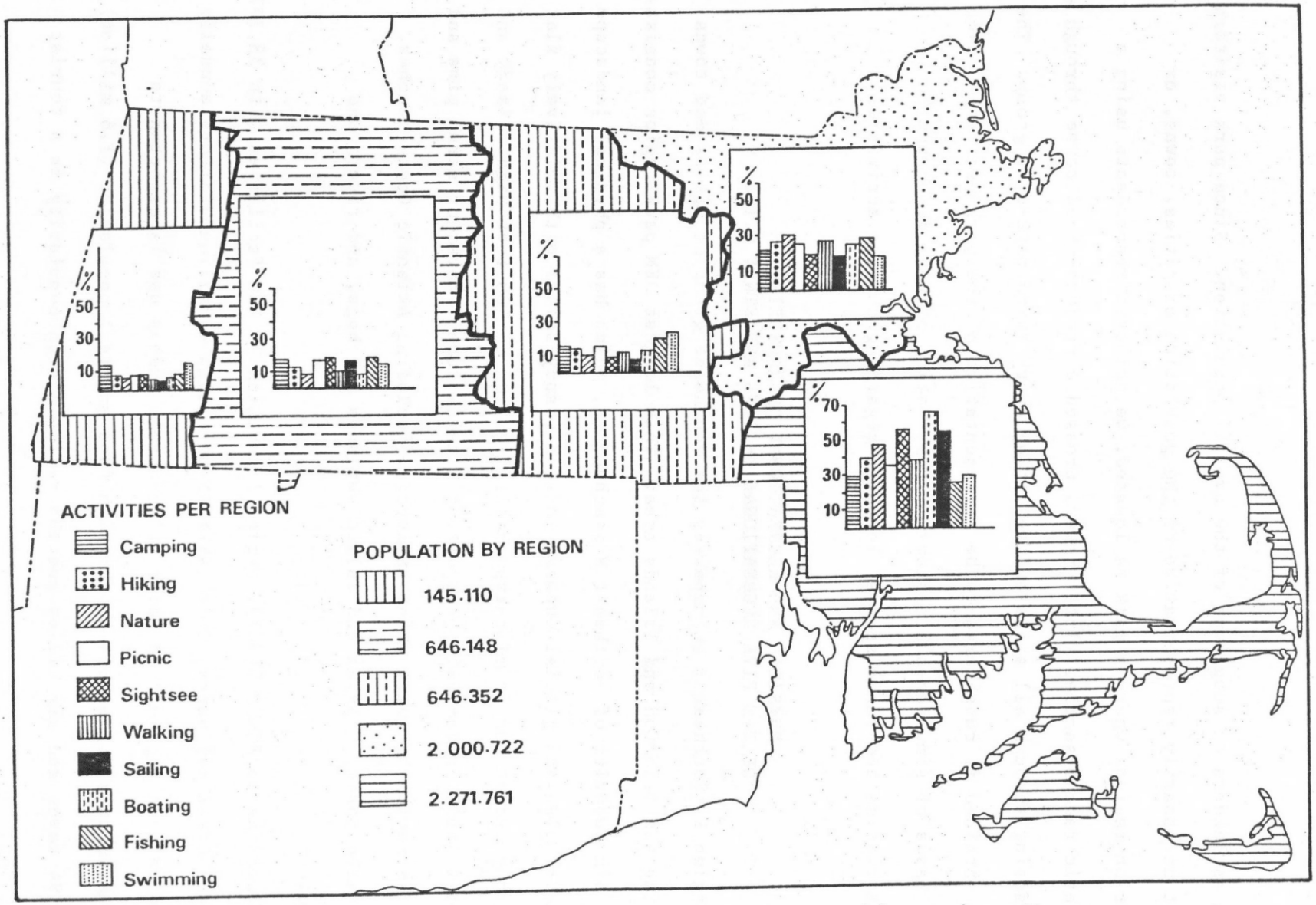


Figure (2) Population and Outdoor Recreation Activities In Massachusetts

chosen as leaders of subgroups of the overall population. Since park visitors are not necessarily representative of the population of cities, towns, or recreation regions where a park is located, we selected respondents using a systematic random sample. Interviewers crossed a predetermined route through a park passing through all areas and selecting every third park-user group. The sample obtained is considered to be representative of the park-user population on the basis of simultaneous systematic observation of user demographic characteristics and their spatial location regarding outdoor activities.

PHYSICAL AND RECREATIONAL CHARACTERISTICS OF THE FIVE RECREATIONAL REGIONS AND STUDY SITES

Region 1 (Southeast) encompasses the southeast group of cities and towns including the Cape Cod and Islands area. This largest DEM park region consists of the six counties of southeast Massachusetts, which has a physical landscape of coastal plan and glacial outwash moraine (sandy soils) with relatively flat topography except for drumlin-type hills from 200 to 300 feet high. Sandy and clay-loam soils predominate, supporting a thick forest cover of scrub pine and oak. The region has vast water resources, including Atlantic Ocean beaches, kettle hole ponds, coastal and inland wetlands and bogs, and rivers and streams.

According to SCORP (1983), Region 1 contains 38 DEM facilities with 38,777 acres of forest and parks, which attract more than 3 million visitors annually (second only to Region 2 in total attendance). Heavy use is expected to continue in this region due to the high (and growing) population (1.6 million) of its 94 towns and six cities and the region's high popularity as a tourist destination.

The park we chose to survey in Region 1 is Myles Standish State Reservation/Park in Plymouth and Carver. As the largest park in the region (14,000 acres), it is the site of the regional park headquarters and is centrally located within Region 1. This park is well-known and heavily used during the summer for both day use and weekly camping. It provides a wide range of summer recreation activities including swimming, picnicking, camping, fishing, biking, canoeing, sailing, bird watching, studying nature, wild blueberry picking, and engaging in other visitor programs. The park is significant for having one of the state's and nation's largest pine barren ecosystems, which includes many rare and endangered plant, bird, and animal species.

Myles Standish has 475 campsites around several ponds. College Pond has a major day use area consisting of a large sandy beach, picnic tables and grills, a food vending stand, and a renovated shower house with restrooms. A typical campground surrounds Barretts Pond in the central part of the park. Each campground has its own beach for campers in that section of the park. Overlooking a pond, the campsites are highly scenic and shaded in pine groves surrounded by bayberry and blueberry bushes. Each campground also has a shower/restroom building. The park's only non-conforming features are siren warning towers that are part of the emergency evacuation system for the nearby (5 miles) Pilgrim Nuclear Power Plant on the Plymouth coast.

Myles Standish State Reservation is a popular summer park, centrally located in the Plymouth-Carver area and within easy access to both Routes 3 and 495. We surveyed 105 park users over several days within the park, first at hiking and fishing sites, then at the College Pond day use beach/picnic areas and finally at Barrett Pond campground.

Region 2 (Northeast) consists of two large counties (Middlesex and Essex) in northeast Massachusetts. The region is bounded on the west by the central highlands of Worcester County, on the north by New Hampshire, on the east by the Atlantic Ocean, and on the south by Region 1. This region's physical landscape includes the Boston basin lowland, centering on the city of Boston and its harbor, and the coastal lowlands of Boston's North Shore, which stretches to the New Hampshire border slightly north of the Merrimac River. On its western side, Region 2 includes the rolling hills (200-700 feet) of the eastern New England upland. Region 2's coastline, salt marshes, rivers and estuaries, and lakes and ponds offer a wide variety of recreation opportunities.

Region 2 is the most densely populated of the five regions with more than 2 million residents in 69 towns and 19 cities. DEM has 32 facilities here, covering 21,675 acres, the smallest acreage of the five regions. Yet Region 2 has a high intensity of use and an attendance rate (2 million visitors a year) that is typically the highest of all regions. Although highly urbanized, this area has great recreation potential because of its diversity of physical, cultural, and historical resources (SCORP 1983).

Because this park survey was being conducted by researchers from Framingham State College, which is in Region 2, there was strong interest in surveying a park with the heaviest use in the local Framingham-Natick area, i.e., Lake Cochituate State Park. Although not as famous as Walden Pond State Park in Concord, which has one of the highest day-use visitation rates of any park in Massachusetts, Lake Cochituate probably has the second highest day use visitation rate of any of the inland lakes in Region 2. And although not containing a historic site like Walden Pond, Lake Cochituate is a larger water body, which offers a full range of boating with a large boat-launching ramp and

two boat docks. Lake Cochituate State Park has a large 600-foot-long beach and ample fishing areas. The park also has a variety of shaded and open picnic areas with cookout grills and two flat grassy sports fields.

Within easy access to both the Massachusetts Turnpike and Route 9, Lake Cochituate is centrally located in the Metrowest division of the Boston Metropolitan Area. On warm summer weekends, this park is often filled to capacity, with lines of cars backed up at the entrance gate for both the boat ramp and the beach/picnic area. The main park lies on the middle lake, but many other fishing access zones rim the three water bodies that make up the whole of Lake Cochituate. Because all sections of the lake are accessible through boating tunnels, it is the most popular public-launch access in Massachusetts east of Lake Quinsigamond (Worcester). The state park has also set aside on the middle lake a specially marked zone for jet-ski users, who also launch from the park ramp.

Lake Cochituate's location in the busy Metrowest area within 30 minutes of Boston makes it a popular summer day-use park with more than 180,000 visitors during the April to November season (SCORP 1983). Most of the 105 surveyed in July were in the main beach/picnic area, but a portion of our sample did include boat-ramp users.

Region 3 (Central) lies in the center of Massachusetts and consists entirely of Worcester County. To the east is Region 2, to the south are Rhode Island and Connecticut, to the west is Region 4 in the Connecticut River Valley, and to the north is New Hampshire. The physical landscape includes the rolling hills and valleys of the central New England upland, heavily wooded and studded with glacial lakes. The region has 56 towns and four cities with a total population of 650,000. With its surrounding densely populated area, Worcester is the region's central city and the second largest city in Massachusetts.

DEM has 40 facilities here with a total of 33,536 acres. Overall annual attendance amounts to more than 1.8 million visitors, the third highest of the five regions. Two of the zone's most popular parks -- Mt. Wachusett and Purgatory Chasm -- represent physical features that owe their origin to glacial erosion 20,000 years ago on the New England upland. In the region's north is Wachusett Mountain State Reservation, containing Mt. Wachusett (2,006 feet), the highest peak in Massachusetts east of the Berkshire Hills. This mountain has many trails and camping areas for summer use and an auto road with scenic overlooks. In addition, this reservation has a fully developed skiing operation. At the southern end of Region 3 is Purgatory Chasm State Reservation, where glaciers scoured out a chasm 80 feet deep and 1/8 of a mile long. In it huge granite boulders have been fractured and strewn about, creating numerous caves.

For its unique physical characteristics and its closeness to the city of Worcester, we chose Purgatory Chasm as the park to survey in Region 3. The whole park is relatively large with 188 acres of thick woods, hills and valleys, rock outcroppings, and the chasm. This is strictly a day-use park with hiking and picnicking the main recreation activities. The park's central feature and main attraction is the chasm itself. Most of the more than 60,000 visitors per year come to hike through the chasm with its spectacular granite blocks, caves, and cliffs. The chasm also includes a challenging "squeeze" trail that leads through a narrow fracture in two huge granite blocks. Rim trails on both sides of the "channel" offer spectacular views into the chasm and caves below.

At the main entrance is a pavilion with a concession stand for picnics. There are also picnic tables and grill areas next to a small playground. The thick woods, rock outcroppings, and the chasm all provide a cool, quiet, and unique piece of wilderness within 15 minutes of bustling Worcester. Over several summer days we surveyed 105 visitors.

Region 4 (Connecticut River Valley), in west-central Massachusetts, comprises the state's portion of the Connecticut River watershed. The Connecticut is New England's largest river, and its valley with ridges, hills, and ponds constitutes the main physical features of Region 4. To the east is the upland of Region 3, to the north is New Hampshire, to the south is Conencticut, and to the west are the high hills of the Berkshires, which make up Region 5. Region 4 has a population of about 650,000 in 64 towns and five cities. The major urban center is the Springfield-Chicopee-Holyoke metropolitan complex.

In Region 4, DEM has 44 facilities with 66,873 acres that host more than 1 million visitors per year. The area contains many rivers and ponds that offer such opportunities as swimming, fishing, boating, and picnicking. The valley's basalt ridges, such as in Holyoke Range and Skinner State Park, offer hiking trails and scenic views of the Connecticut Valley.

For our mid-summer survey we chose Hampton Ponds State Park in Westfield, a park similar to Lake Cochituate in Region 2. Here recreation focuses mainly on water-based, day-use activities. Serving the nearby cities of Springfield and Holyoke, the 30-acre park receives intensive summer use, which accounts for the bulk of its yearly attendance of 68,000 (SCORP 1983).

Skinner State Park fronts on Pequot Pond and has two beaches with 900 feet of sandy frontage. The main parking lot with bath houses, restrooms, and two pavilions is at Kingsley Beach. The second beach with its own parking lot is Lamberts Beach, which has restrooms but no bath house. Between the parking lot and the beach is a pleasant, grassy picnic/grill area that provides a panoramic view of the pond. Known as Italian Grove, this is the park's most popular picnic area. Between the two beaches is a small stream/inlet that provides viable fishing.

Region 5 (The Berkshires) is located in the western most section of Massachusetts. It is bordered by Vermont on the north, Region 4 on the east, Connecticut on the south, and by New York State on the west. Region 5 has the most rugged landscape in the state, comprising the Berkshire Hills physiographic zone. From north to south, high hills, rolling valleys, dairy farms, and thick woods predominate. Mt. Greylock (3,491 feet), the state's highest peak, lies in the northwest corner of the region in the town of Adams.

Region 5 includes all of Berkshire County, which contains 30 towns and two cities. The cities of Pittsfield and North Adams make up almost half of the region's total population of 145,000. Most of the towns are small farming communities with fewer than 5,000 residents. The populations of only six communities exceed 5,000. Although it's the state's most rural section, Region 5 has the largest DEM acreage with 87,782 acres of forest and parks. The region's 23 DEM facilities experience a total annual attendance of more than 800,000 (SCORP 1983). The abundance of open space and mountain scenery attracts many tourists and recreation seekers (mainly hikers and campers) from all over the northeastern U.S. Although Region 5 contains many parks with waterfalls, lakes, gorges, and wooded campgrounds, we chose for our survey a rather unique park containing the state's highest mountain -- Mt. Greylock State Reservation in Adams.

Acquired in 1898, Mt. Greylock State Reservation is the oldest park managed by the DEM. It boasts hills and valleys, thick woods, and a section of the Appalachian Trail that cuts through the length of the park traversing the top of Mt. Greylock. The core of the park consists of the visitor center with natural and geological exhibits, and the auto road and hiking trails to the

summit of Mt. Greylock. At the summit are a large parking lot, scenic overlooks, the Bascom Lodge (maintained by the Appalachian Mountain Club [AMC]), and the 90-foot Veterans' Memorial Tower. The tower, with its glass-enclosed viewing platform, is a popular tourist attraction that on a clear day provides spectacular views of three states.

The summit area also has picnic facilities, a small open sports field, and a variety of scenic overlooks at the mountain's edge. Bascom Lodge provides food and lodging, restrooms, and a glass-enclosed picnic area. Several hiking trails converge on the summit, including the famous Appalachian Trail. Slightly below the summit in a protected wooded area is a campground, which is accessible from the hiking trails and auto road. We surveyed 105 visitors at the summit, along several trails, and in the nearby campground.

STUDY OBJECTIVES

Little research has been conducted on the perceptions and value systems of state park users toward recreation activities in Massachusetts. Most state park-related research falls into three categories:

1. Guidelines for state park visitors on how to use outdoor activities and services.
2. Descriptions of efforts by state government and nonprofit groups to implement recreation and conservation programs.
3. Detailed statistical information on the supply and demand of all types of outdoor activities.

The most closely related research is reported in the 1988-92 Statewide Comprehensive Outdoor Recreation Plan (SCORP), which devotes a chapter ("We the People") to an analysis of the frequency with which state residents and visitors use recreation facilities and to a determination of levels of

satisfaction with recreation opportunities offered by the state (SCORP 1988, 69). By telephone interviewing, 2,640 residents (66% of the original sample) and determining participation and the desire for more participation in specific outdoor recreation activities among Massachusetts residents, researchers estimated the demand for outdoor recreation. But the SCORP study did not address visitor perceptions and value systems or how residents feel about the quality of parks, their awareness and satisfaction levels toward park activities and facilities, and their feelings about recent fee increases.

Our research attempts to provide user profiles and to improve on previous studies by:

1. Focusing only on outdoor recreation within the state parks so that the study results can provide systematic information for state park planners and decision-makers.
2. Obtaining information on the perceptions, preferences, and demographic characteristics of state park users from a single data source, that is, on-site interviews.
3. Identifying state park user perceptions and value systems toward recreation activities without assuming, as did earlier studies (SCORP 1966, 1976, 1988), that visitor satisfaction is gained as long as the supply exceeds the demand.
4. Using cross-tabulation and cartographic methods to assess the effects of demographic and socioeconomic characteristics of park visitors on both their perceptions and frequency of outdoor recreation participation.

SURVEY FINDINGS

Sample Characteristics and Residential Origins

We interviewed 525 park visitors in the five state parks. Table 2 shows select demographic and socioeconomic characteristics of the sample. The sample population was almost evenly divided between males (49.3%) and females (50.7%). Most visitors were young adults (51% were 18-34 years old; 29% were 35-49 years old); married (53.9%); and white (82.3%). These findings reflect the fact that respondents were chosen as leaders of their groups and that most visitors came in family groups. The average household size of respondents is 3.5, virtually the same as the average household size in Massachusetts. Most are well-educated, 53% having graduated from high school and 33% from college.

Annual income was also recorded as a measure of the socioeconomic levels of state park users. Most respondents (63%) noted earning less that $30,000 annually (32% earn between $20,000 and $29,000, and 31% earn less than $20,000). This relatively large proportion of respondents likely reflects the fact that more than half of the population consists of young adults who are assumed to hold junior levels of occupation. Other income ranges reported were 21.3% earning $30,000-$39,000, 8.4% earning $40,000-$49,000, and 7.6% earning more than $50,000.

In summary, the data suggest that state park visitors are generally well-educated, family-oriented young adults, who represent a low-to-middle income population who may not be able to afford the costs of other private outdoor recreation activities and resorts.

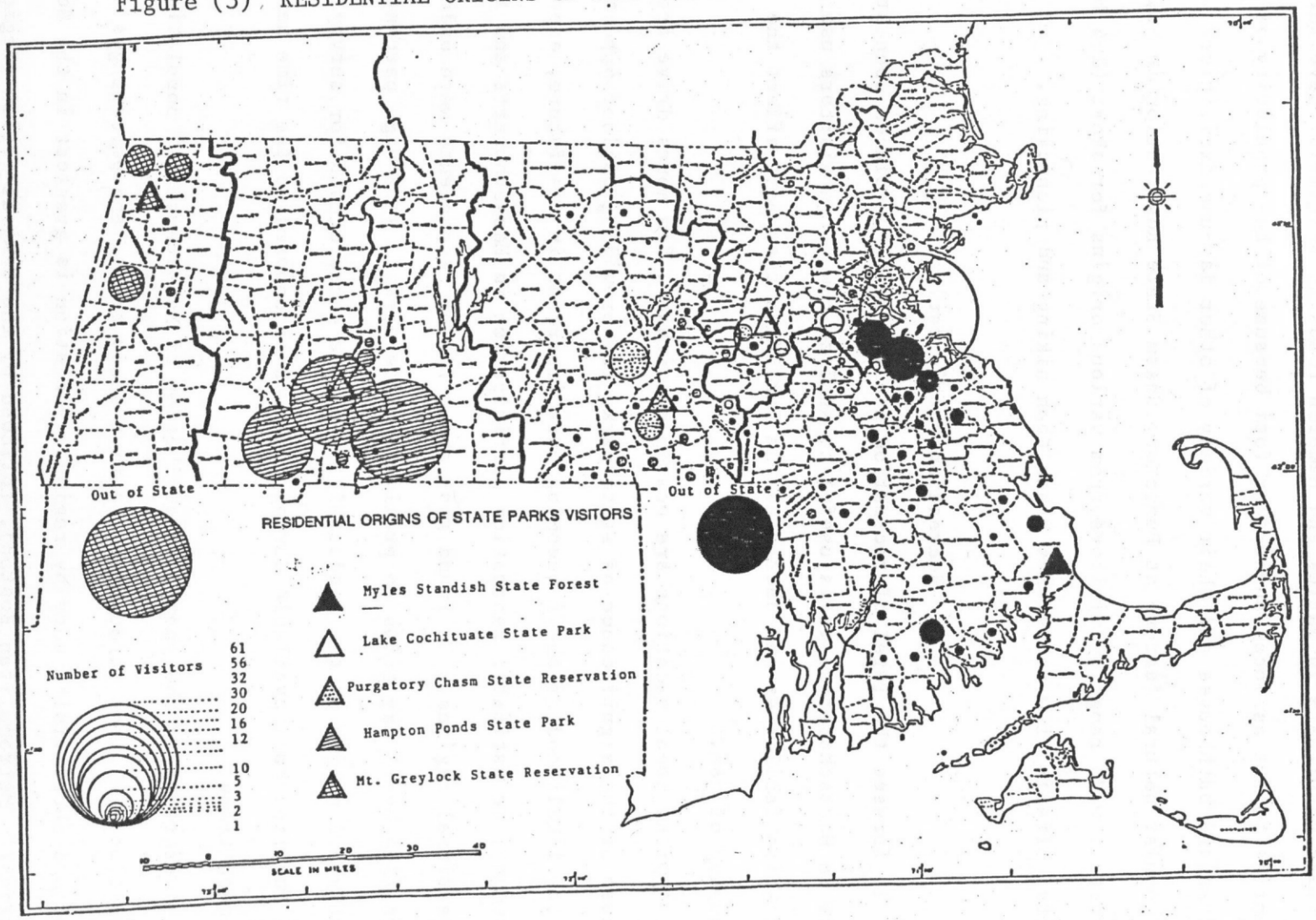
Figure 3 shows the residential origins of our sample. Data are plotted at the town or city level for Massachusetts residents and aggregated for out-of-state visitors. To interpret this map, three major factors should be

TABLE 2 SELECTED CHARACTERISTICS OF STATE PARK USERS

VARIABLE	SEX		AGE STRUCTURE					MARITAL STATUS				ETHNICITY STRUCTURE					
	MALE	FEMALE	UNDER 18	18 - 34	35 - 49	50 - 64	65+	SINGLE	MARRIED	DIVORCED/ SEPARATED	WIDOWED	WHITE NON-HISPANIC	BLACK	HISPANIC	ASIAN	OTHERS	NO ANSWER
SAMPLE NUMBER N=525	259	266	35	268	152	52	18	190	283	43	9	432	19	59	11	2	2
%	49.3	50.7	6.7	51.0	29.0	9.9	3.4	36.2	53.9	8.2	1.7	82.3	3.6	11.2	2.1	0.4	0.4

VARIABLE	HOUSEHOLD SIZE								EDUCATION				ANNUAL INCOME - $					
	1	2	3	4	5	6	7	8	9	BELOW HIGHSCHOOL	HIGHSCHOOL DIPLOMA	COLLEGE DEGREE	GRADUATE DEGREE	UNDER 20,000	20,000-29,999	30,000-39,999	40,000-49,999	50,000 AND OVER
SAMPLE NUMBER N=525	49	125	91	143	63	33	11	3	7	46	278	174	27	163	166	112	44	40
%	9.3	23.8	17.3	27.2	12.0	6.3	2.1	0.6	1.3	8.8	53.0	33.1	5.1	31.0	31.6	21.3	8.4	7.6

Figure (3) RESIDENTIAL ORIGINS OF MASSACHUSETTS STATE PARK VISITORS



considered. First, major camping sites at Myles Standish State Forest in Plymouth and at Mt. Greylock State Reservation in Adams have the potential to attract larger numbers of out-of-state vacationers. Second, of the five parks, two (Lake Cochituate in Natick and Hampton Ponds in Westfield) have the potential to act as local anchors or foci because of the popularity of their beaches and bathhouses and their variety of other day-use facilities. Third, the popular natural feature at Purgatory Chasm State Reservation in Sutton attracts a wide range of visitors from various origins for short (2-4 hour) visits, offering few activities other than hiking and picnicking.

Recreation Participation

To foresee the level of recreation use likely to be placed upon state parks in Massachusetts, it is useful to analyze how often visitors use recreation facilities and determine the variables that most affect the frequency of use.

Typical local vacations are now spent within a few hours drive from home. Because of the significance of state parks for providing outdoor opportunities and the likelihood of their becoming more important in the future, especially in summer, we estimated recreation participation in Massachusetts and its five recreational regions. We found that about 78% of respondents were undertaking short (2-4 hour) day trips to proximate state parks. This high percentage is largely a function of the accessibility of the parks chosen for survey and the time families have available during weekends as opposed to the time needed for extended trips.

Conforming to the spatial distribution of Massachusetts' population and recreation activites throughout the five study areas, the percentages of day trips and short visits vary by region. Variation is greatest in the Northeast (Region 2 - Metropolitan Boston), followed by the Central region (Region 3),

the Connecticut Valley (Region 4), the Southeast (Region 1), and finally the Berkshires (Region 5). This finding's consistency with previous research (Massachusetts Department of Natural Resources 1966; SCORP 1988) suggests that when residents consider one-day or short trips, travel is limited to one-to-two hours, at most, from home. Americans do travel to distant places, but most demands for outdoor recreation are satisfied locally.

The opportunity for several outdoor activities within state parks appears to be key to understanding the nature of recreation participation. Our survey found the most popular activities to be swimming (19%), sunbathing (14.7%), picnicking (14.5%), and sightseeing (13.5%), which can all be described as major summer activities. The next most popular activities, by order of popularity, are hiking, observing natural features and historic sites, climbing mountains, playing games (soccer, volleyball), photography, and bird-watching. These acitivites relate to the physical landscape and the environmental conditions of several Massachusetts state parks. Such activities as boating, motor biking, and water skiing are less popular perhaps because they demand more expensive equipment, which many state park users may not be able to afford, since most of our sample would be classified lower-middle income (under $20,000 or $20,000 to $29,000).

Figures 4 through 8 depict regional variations in the percentages of the population participating in different outdoor activities. These variations result from the presence of different opportunities in each park. Certain activities registered no use for some regions but were the most popular activities in other regions. Nevertheless, swimming, sunbathing, picnicking, and sightseeing seem to be the most popular activities throughout the state park system.

FIGURE 4 PARTICIPATION RATES IN THE OUTDOOR RECREATION ACTIVITIES IN REGION 1
MYLES STANDISH

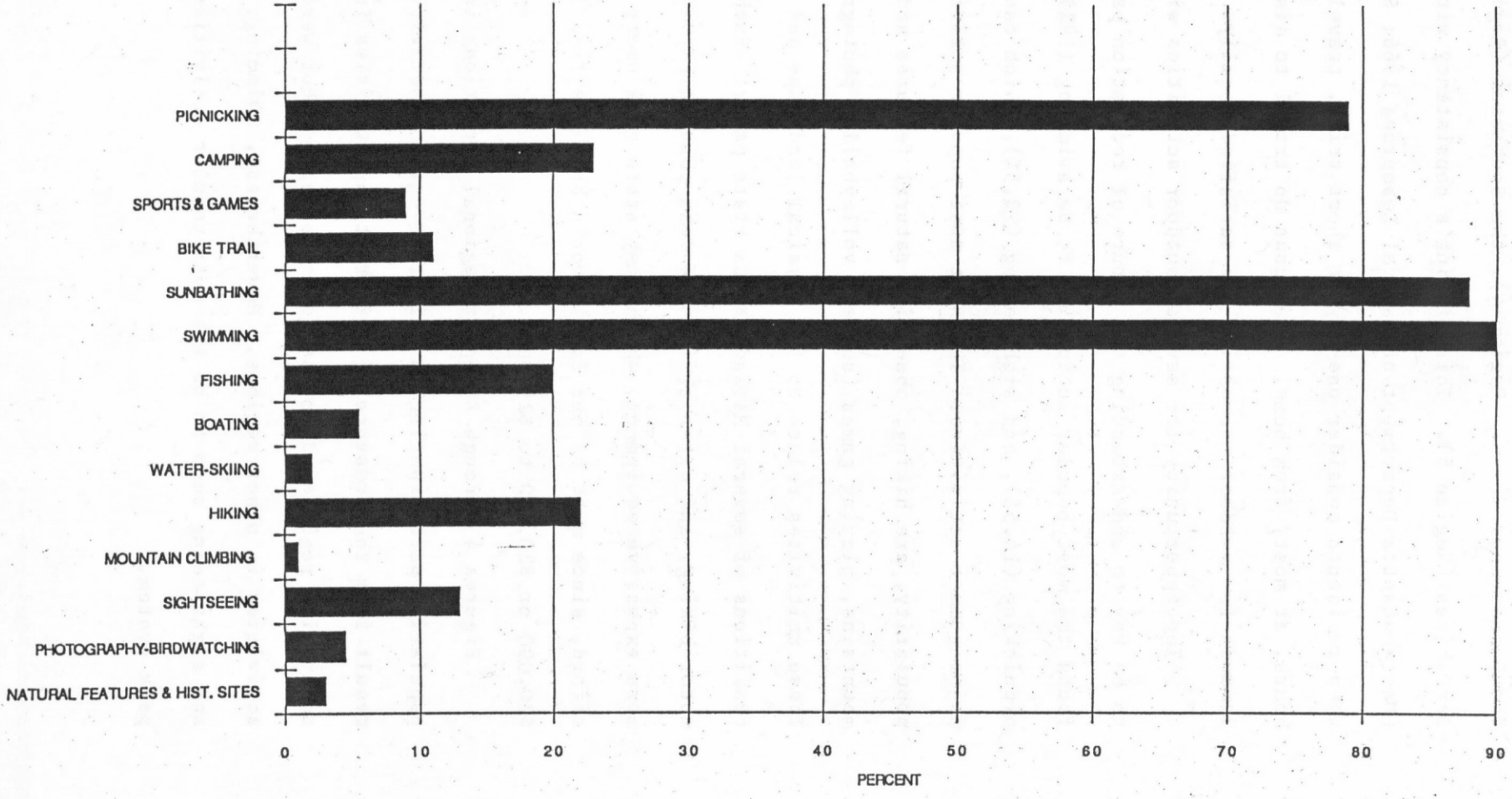


FIGURE 5 PARTICIPATION RATES IN THE OUTDOOR RECREATION ACTIVITIES IN REGION 2
LAKE COCHITUATE

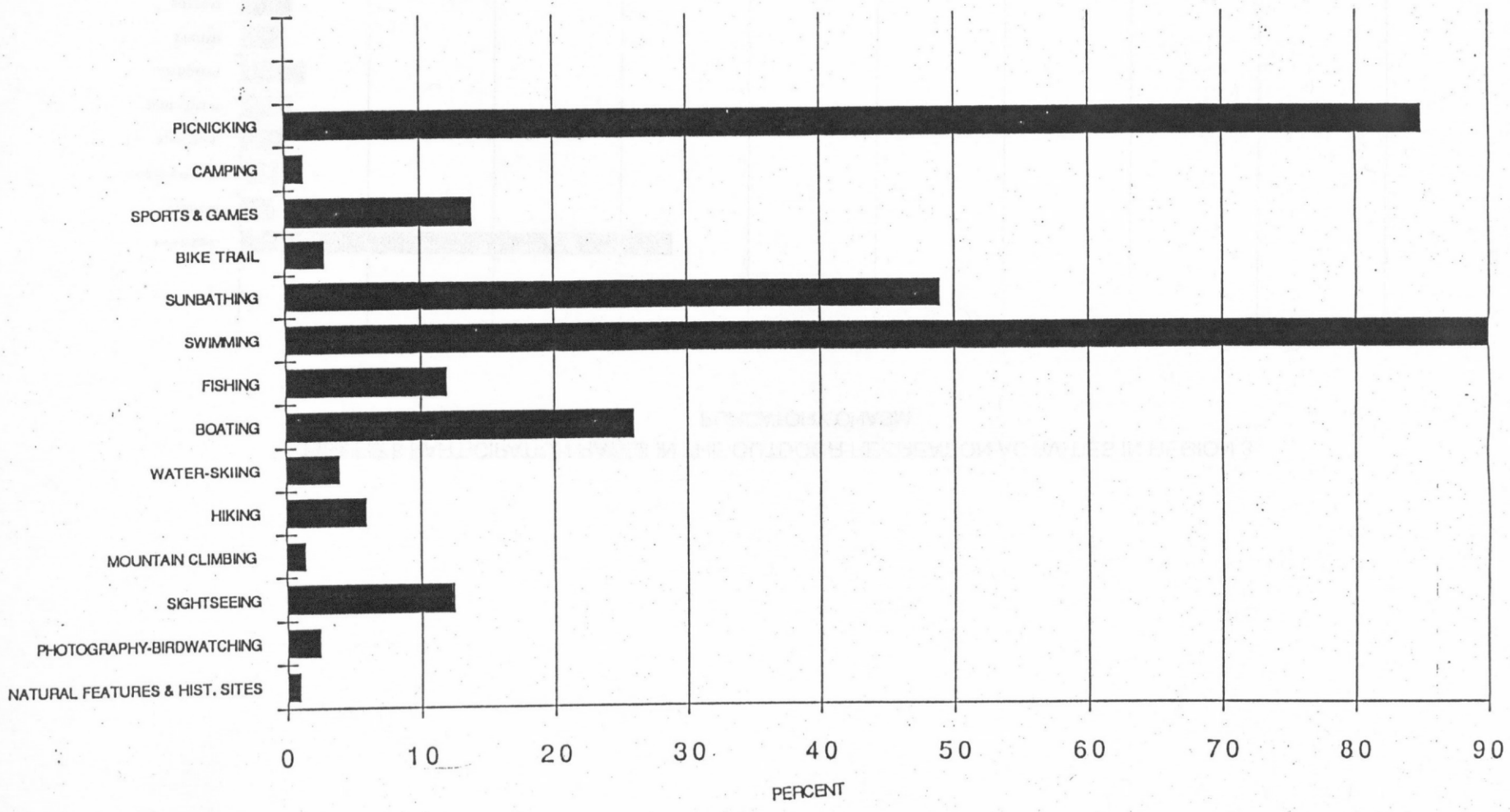


FIGURE 6 PARTICIPATION RATES IN THE OUTDOOR RECREATION ACTIVITIES IN REGION 3
PURGATORY CHASM

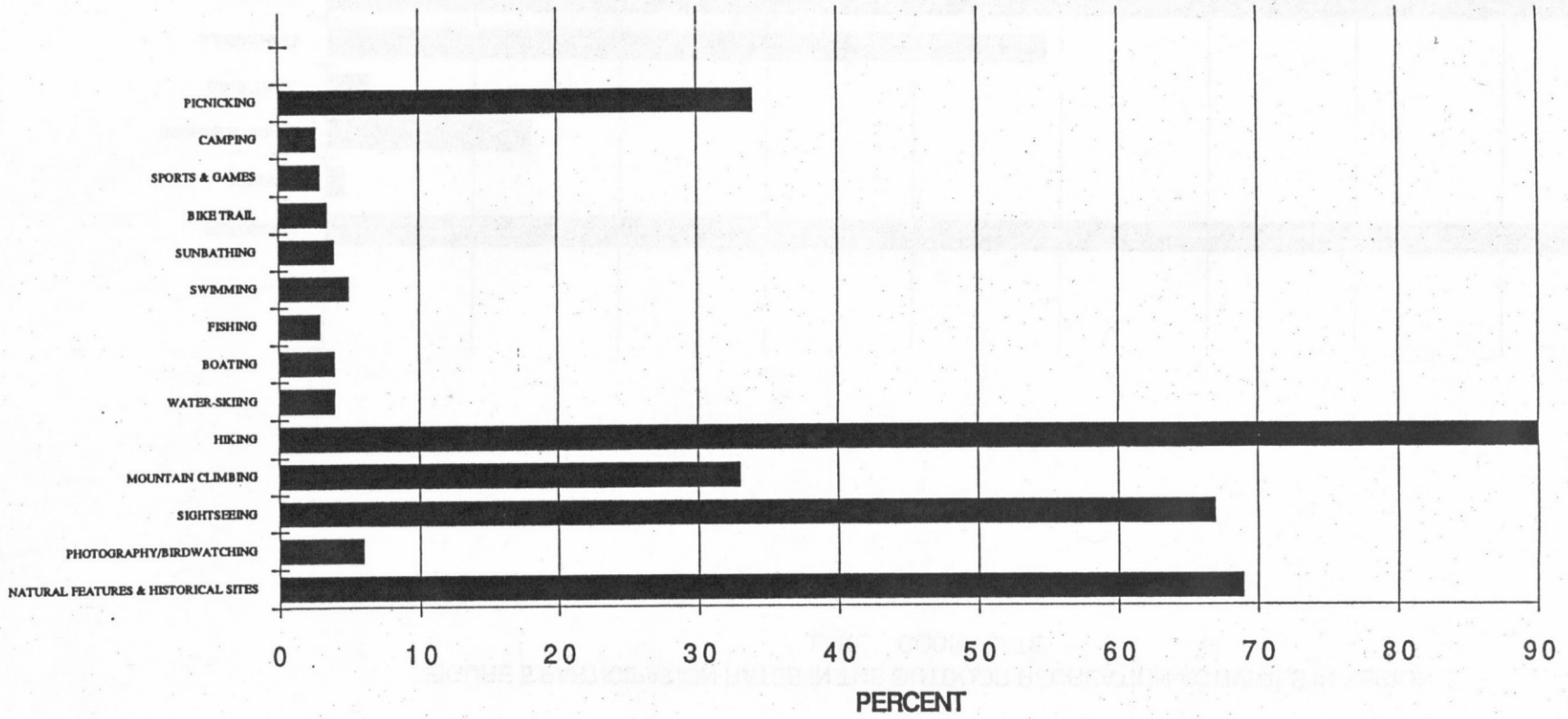


FIGURE 7 PARTICIPATION RATES IN THE OUTDOOR RECREATION ACTIVITIES IN REGION 4
HAMPTON PONDS

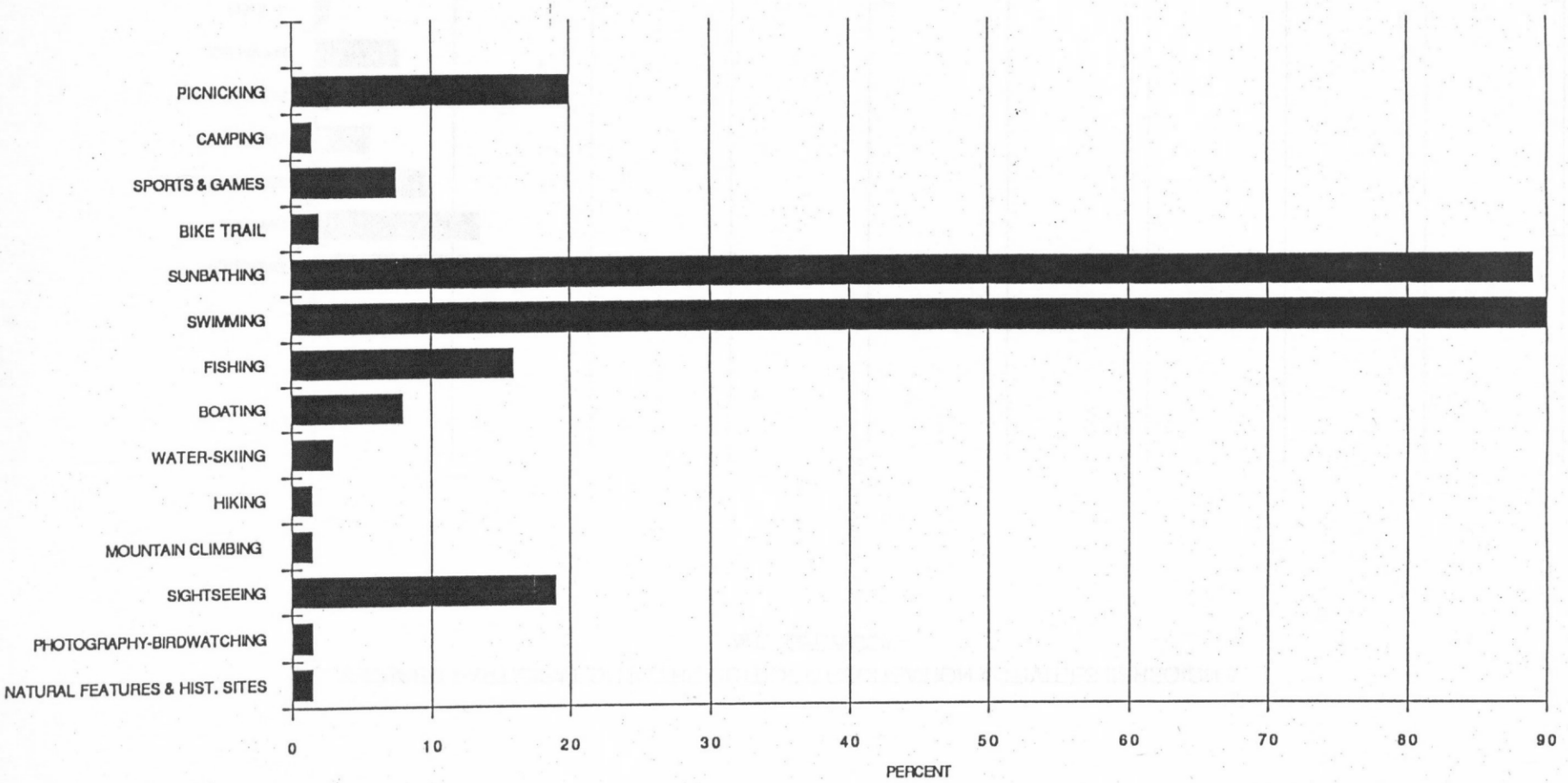
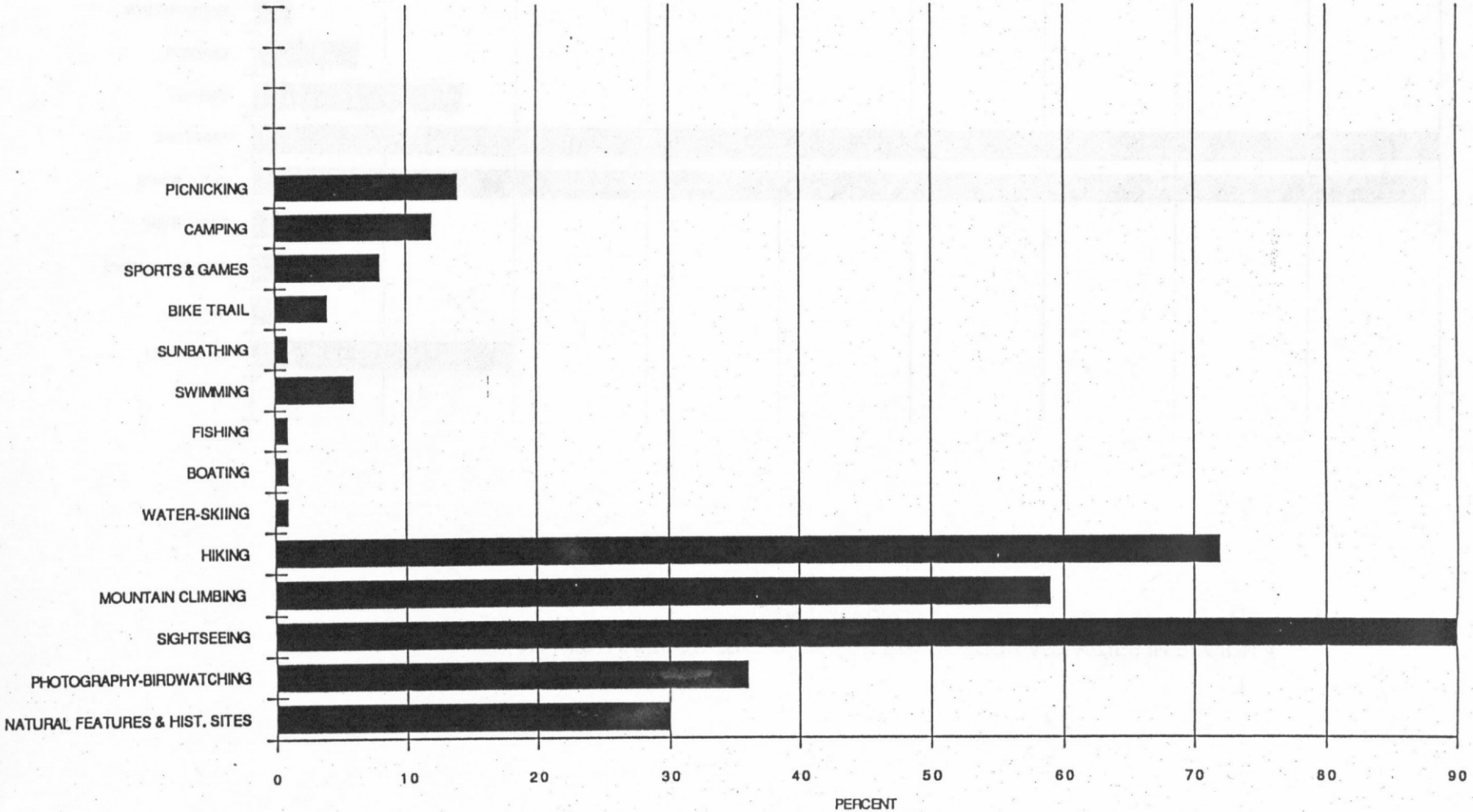


FIGURE 8 PARTICIPATION IN THE OUTDOOR RECREATION ACTIVITIES IN REGION 5
MT. GREYLOCK



Several socioeconomic characteristics of the sample clearly affect participation rates in recreation activities. Table 3 relates age, education, income, ethnic background, household size, and hometowns of park visitors to park visitations. Age appears inversely related to participation. As one might expect, as age increases, participation tends to decline, particularly for activities that require physical exertion and agility, such as water skiing, bicycling, and mountain climbing. Some activities, however, such as sightseeing, sunbathing, photography, and enjoying natural features and historic sites, appear to be favorite activities of the older members of our sample.

Educational attainment, income level, and household size are related variables that also affect participation rates. The recreation literature suggests a strong correlation among these variables, as well as a positive relationship between them and the participation rate in outdoor recreation. Our findings, however, suggest an inverse relationship between these variables and the participation rate, most likely resulting from our focus on state park outdoor activities, whose main participants here are the lower-middle income population. This obviously represents an area for future research endeavors.

Perceptions of Recreation Quality and Satisfaction Levels

Recreation planning literature has emphasized the importance of analyzing state park visitor preferences, perceptions, and levels of satisfaction, but few empirical studies have explained these issues. According to Mitchell and Smith (1985), few recreation studies address questions of perception and behavior. Answers to these questions may help to assess the recreational needs of special populations (handicapped, linguistic or ethnic minorities), recognize major problems and potentials, project public opinion, and determine the effectiveness of existing facilities and programs (Webb and Hatry 1973).

Table 3. Socioeconomic Factors Affecting the Number of Visits to Massachusetts State Parks

AGE

No. of Visits	Under 18	18-34	35-49	50-64	65+
1-5	15	133	76	32	10
6-10	12	72	43	10	5
11-15	3	27	17	3	0
16-20	2	17	5	2	0
21-25	1	4	5	1	0
26-30	1	8	3	1	1
31-35	0	1	0	0	0
36-40	1	2	0	1	0
41-45	0	1	2	0	0
46-50	0	2	0	2	1
51 and more	0	1	1	0	1
	35	268	152	52	18

EDUCATION

No. of Visits	Below High School	High School Diploma	College Degree	Graduate Degree
1-5	18	151	84	13
6-10	8	75	48	11
11-15	6	21	21	2
16-20	5	14	6	1
21-25	0	6	5	0
26-30	2	4	8	0
31-35	0	1	0	0
36-40	4	0	0	0
41-45	0	1	2	0
46-50	2	3	0	0
51 and more	1	2	0	0
	46	278	174	27

INCOME

No. of Visits	Under $20,000	$20,000-$29,999	$30,000 $39,999	$40,000 $49,999	$50,000 and more
1-5	72	91	56	20	27
6-10	45	47	31	12	7
11-15	12	8	17	10	3
16-20	12	6	5	2	1
21-25	6	3	1	0	1
26-30	6	6	2	0	0
31-35	0	1	0	0	0
36-40	3	1	0	0	0
41-45	1	1	0	0	1
46-50	4	1	0	0	0
51 and more	2	1	0	0	0
	163	166	112	44	40

ETHNIC

No. of Visits	White Non-Hispanic	Black	Hispanic	Asian	Other	No Answer
1-5	236	6	14	9	1	0
6-10	114	7	19	1	0	1
11-15	42	0	8	0	0	0
16-20	14	4	7	0	1	0
21-25	7	0	3	0	0	1
26-30	7	1	5	1	0	0
31-35	1	0	0	0	0	0
36-40	2	1	1	0	0	0
41-45	3	0	0	0	0	0
46-50	3	0	2	0	0	0
51 and more	3	0	0	0	0	0
	432	19	59	11	2	2

HOUSEHOLD SIZE

No. of Visits	1	2	3	4	5	6
1-5	31	70	39	72	31	13
6-10	11	29	32	38	18	8
11-15	1	11	11	15	6	3
16-20	2	3	2	9	2	7
21-25	0	2	5	2	2	0
26-30	0	4	0	6	3	1
31-35	0	1	0	0	0	0
36-40	2	0	0	0	0	1
41-45	0	2	1	0	0	0
46-50	2	1	1	1	0	0
51 and more	0	2	0	0	1	0
	49	125	91	143	63	33

PLACE OF RESIDENCE

No. of Visits	Massachusetts Residents	Out of State
1-5	193	73
6-10	102	40
11-15	40	10
16-20	21	5
21-25	10	1
26-30	8	6
31-35	0	1
36-40	3	1
41-45	3	0
46-50	5	0
51 and more	3	0
	388	137

Table 3 (cont'd.). Socioeconomic Factors Affecting the Number of Visits to Massachusetts State Parks

That individual perceptions toward the availability of state parks can offer insights into recreation use is both well-accepted and intuitively obvious. When respondents were questioned on their satisfaction levels and insights and concern for the availability of state parks, roughly 44% showed strong concern for this matter, feeling that the present number of state parks is sufficient. Moreover, about 79% of our sample reported that recreation opportunities in state parks are adequate. But responses concerning adequacy of opportunities varied by the socioeconomic characteristics of respondents (Table 4).

When asked of their satisfaction levels with the overall quality of state parks and regarding specific services (such as water supply, campgrounds, staffing, parking, picnic and cookout facilities, restrooms, swimming ponds and beaches, boat ramps and docks, direction signs, and roads within parks), roughly 53% felt somewhat satisfied and 36% felt very satisfied. Of the 6% reporting to be somewhat dissatisfied, most concerns related to the lack of refreshment stands, playing fields for soccer and volleyball, jogging and bike trails, and paddle boat or canoe rentals.

Some repondents expressed dissatisfaction with the conditions and numbers of restrooms in some parks. Purgatory Chasm, for example, has a particularly poor restroom in desperate need of upgrading and modernization. Finally, some respondents note dissatisfaction with direction signs, both leading to and within parks. Several people reported difficulties in finding parks because of a lack of good, clear signs on public roadways. A need was also expressed for more and clearly marked handicapped access signs along with handicapped parking spaces. The effects of socioeconomic characteristics on satisfaction levels are presented in Table 5.

Table 4. Socioeconomic Factors Affecting Perceptions of Massachusetts State Park Users Toward Recreation Activities (%)

PERCEPTIONS OF STATE PARK USERS TOWARDS RECREATION ACTIVITIES		ADEQUATE	NOT ADEQUATE	DON'T KNOW
SEX	MALE	78.8	10.1	11.2
	FEMALE	78.2	10.2	11.7
AGE	UNDER 18	85.7	2.9	11.4
	18 - 34	76.1	11.6	12.3
	35 - 49	80.3	9.2	10.5
	50 - 64	78.8	11.5	9.6
	65+	83.3	5.6	11.1
EDUCATION	BELOW HIGH SCHOOL	93.5	4.3	2.2
	HIGH SCHOOL DIPLOMA	73.0	11.5	15.5
	COLLEGE DEGREE	82.8	8.6	8.6
	GRADUATE DEGREE	81.5	14.8	3.7
ANNUAL INCOME	UNDER 20,000	85.3	4.9	9.8
	20,000 - 29,999	71.7	14.5	13.9
	30,000 - 39,999	77.7	10.7	11.6
	40,000 - 49,999	84.1	6.8	9.1
	50,000 AND OVER	75.0	13.0	10.0
ETHNIC BACKGROUND	WHITE NON-HISPANIC	77.5	10.4	12.0
	BLACK	84.2	10.5	5.3
	HISPANIC	83.1	8.5	8.5
	ASIAN	72.7	9.1	18.2
	OTHERS	0	0	0
PLACE OF RESIDENCE	MASSACHUSETTS	80.2	11.3	8.5
	OUT OF STATE	73.7	6.6	19.7

Table 5. Level of Satisfaction by Socioeconomic Characteristics of State Park Users of Massachusetts Park System Quality (%)

LEVEL OF SATISFACTION		VERY SATISFIED	SOMEWHAT SATISFIED	SOMEWHAT DISSATISFIED	VERY DISSATISFIED	DON'T KNOW
SEX	MALE	41.9	45.7	7.4	0	5.0
	FEMALE	30.5	60.5	4.9	0.4	3.8
AGE	UNDER 18	45.7	45.7	2.9	0	5.7
	18 - 34	34.0	53.7	8.2	0	4.1
	35 - 49	34.2	55.9	3.9	0.7	5.3
	50 - 64	46.2	46.2	5.8	0	1.9
	65+	38.9	55.6	0	0	5.6
EDUCATION	BELOW HIGH SCHOOL	65.2	32.6	0	0	2.2
	HIGH SCHOOL DIPLOMA	30.2	58.6	7.6	0.4	3.2
	COLLEGE DEGREE	36.8	51.1	5.7	0	6.3
	GRADUATE DEGREE	44.4	44.4	3.7	0	7.4
ANNUAL INCOME	UNDER 20,000	36.2	56.4	3.1	0	4.3
	20,000 - 29,999	28.9	57.2	10.2	0.6	3.0
	30,000 - 39,999	38.4	52.7	6.3	0	2.7
	40,000 - 49,999	45.5	43.2	2.3	0	9.1
	50,000 AND OVER	50.0	35.0	5.0	0	10.0
ETHNIC BACKGROUND	WHITE NON-HISPANIC	35.9	53.5	6.3	0.2	4.2
	BLACK	52.6	36.8	5.3	0	5.3
	HISPANIC	30.5	57.6	6.8	0	5.1
	ASIAN	45.5	45.5	0	0	9.0
	OTHERS	50.0	50.0	0	0	0
PLACE OF RESI-DENCE	MASSACHUSETTS	34.3	57.2	6.2	0	2.3
	OUT OF STATE	41.6	41.6	5.8	0.7	10.2

In response to the question of how aware people were of state parks in Massachusetts, 58.8% reported that they were somewhat aware, and 21% replied that they were very aware. A total of 20.5% claimed to be unaware of state parks except for the park located close to their home or hometown (Table 6). Further, more respondents were aware of the park they usually visit either through a family member's experience (55.6%) or through a friend's experience (31.2%). Only 7.9% reported that they became aware through newspapers, travel brochures, maps, or radio or television advertisement. The other 5.3% found out about the park they were visiting by chance, simply driving by or sometimes even looking for another park but stopping at this one as an intervening opportunity. Such response patterns may reflect a lack of media and educational awareness programs at the state level, a lack of adequate signs on Massachusetts roads in general, and in particular a lack of clearly visible signs directing visitors to state parks.

Slightly more than half of the sample population (51.8%) felt that the recent entrance fee increase from $3 to $5 is fair and justified, a finding that might reflect the awareness of the state's current (1991) financial crisis. But 27% of our sample opposed the fee increase while 21.2% had no opinion. The campers surveyed at Myles Standish and Mt. Greylock parks almost unanimously opposed the recent doubling of camping fees from $6 to $12 per night. Many campers suggested that this fee increase constituted an unfair burden on lower- income families, who cannot afford to vacation at motels or resorts. Because this issue should be considered significant by decision-makers in their plans, data showing the effect of socioeconomic characteristics of park users with fee increases are shown in Table 7.

Finally, we attempted to sample park user preferences on how the state park system's funds should be spent. Responses to these questions are summarized in Table 8. Most respondents expressed a general satisfaction with

TABLE 6. Level of Awareness by Socioeconomic Characteristics of State Park Users of Massachusetts State Park System (%)

LEVEL OF AWARENESS	SEX		AGE					EDUCATION				ANNUAL INCOME					ETHNIC BACKGROUND					PLACE OF RESIDENCE	
	MALE	FEMALE	UNDER 18	18 - 34	35 - 49	50 - 64	65+	BELOW HIGH SCHOOL	HIGH SCHOOL DIPLOMA	COLLEGE DEGREE	GRADUATE DEGREE	UNDER 20,000	20,000 - 29,999	30,000 - 39,999	40,000 - 49,999	50,000 AND OVER	WHITE NON-HISPANIC	BLACK	HISPANIC	ASIAN	OTHERS	MASSACHUSETTS	OUT OF STATE
VERY AWARE	25.4	16.9	22.9	21.0	21.2	19.2	22.3	30.4	18.3	22.5	23.1	19.0	18.6	22.7	34.1	20.0	21.1	31.6	16.9	18.1	50.0	23.3	14.7
SOMEWHAT AWARE	55.1	62.0	48.6	58.8	63.6	59.6	33.3	45.7	59.4	61.3	57.7	54.6	65.7	60.9	56.8	42.5	57.7	47.4	72.9	36.4	50.0	60.7	52.9
UNAWARE	19.5	21.1	28.5	20.2	21.7	21.2	44.4	23.9	22.3	16.2	19.2	26.4	15.7	16.4	9.1	37.0	21.2	21.0	10.2	45.5	0.00	16.0	32.4

Table 7. Socioeconomic Factors Affecting Perceptions of State Park Users Toward the Current Fee Increase from $3 to $5 (%)

PERCEPTIONS OF STATE PARK USERS TOWARDS FEE INCREASE	SEX		AGE					EDUCATION				ANNUAL INCOME					ETHNIC BACKGROUND					PLACE OF RESIDENCE	
	MALE	FEMALE	UNDER 18	18 - 34	35 - 49	50 - 64	65+	BELOW HIGH SCHOOL	HIGH SCHOOL DIPLOMA	COLLEGE DEGREE	GRADUATE DEGREE	UNDER 20,000	20,000 - 29,999	30,000 - 39,999	40,000 - 49,999	50,000 AND OVER	WHITE NON-HISPANIC	BLACK	HISPANIC	ASIAN	OTHERS	MASSACHUSETTS	OUT OF STATE
FAIR AND JUSTIFIED	52.7	50.8	60.0	52.6	50.0	53.8	33.3	67.4	51.1	49.4	48.2	52.8	45.8	48.2	65.9	67.5	51.9	68.4	47.5	54.5	50.0	54.9	43.0
NOT FAIR AND NOT JUSTIFIED	24.0	30.0	20.0	27.2	30.9	19.2	27.8	17.4	28.4	28.7	18.5	26.3	31.3	30.4	20.5	10.0	25.4	21.1	40.6	27.3	50.0	29.0	21.2
DON'T KNOW	23.3	19.2	20.0	20.2	19.1	27.0	38.9	15.2	20.5	21.9	33.3	20.9	22.9	21.4	13.6	22.5	22.7	10.5	11.9	18.2	0.00	16.0	35.8

Table 8. Preferences for Recreation Spending in Massachussets State Park System

PREFERENCES	MAINTAINING & IMPROVING EXSISTING FACILITIES		ENLARGING EXISTING PARKS & FACILITIES		DEVELOPING NEW PARKS & FACILITIES		DEVELOPING MORE NEW ACTIVITIES		ADDING MORE PARK STAFF & RANGERS		PURCHASE MORE LAND FOR CONSERVATION/ OPEN SPACE	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
YES	406	77.3	166	31.6	136	25.9	119	22.7	90	17.1	156	29.7
NO	119	22.7	359	68.4	389	74.1	406	77.3	435	82.9	369	70.3
TOTAL	525	100	525	100	525	100	525	100	525	100	525	100

existing park activities and facilities by stating that they preferred to maintain and improve existing facilities (77.3%). Furthermore, 68.4% opposed expanding existing park facilities, developing more new recreation activities, or adding new staff and rangers. Such response patterns conform to the results of the supply and demand analysis of the 1988 SCORP study.

Our sample differs from SCORP, however, on the question of whether spending should be directed toward the purchase of more land for conservation or recreation. Fully 70% of our sample rejected the idea of spending more state funds to purchase land. These findings are most likely explained by two important facts. First, Massachusetts maintains a generally high level of quality in its state park recreation activities. That fact is reflected in the overall positive perceptions of our sample. Second, respondents, 73.9% of whom are residents of Massachusetts, are aware of state budget problems that might affect other needed services such as education, health care, and environment/ toxic waste clean-up.

CONCLUSIONS

Introducing systematic information about state park visitors in a profile of five selected parks, this study clearly shows variations in perceptions and value systems related to variations in the socioeconomic background of park visitors. Although presenting sample population data that cannot be generalized, this study does increase our understanding of the importance of the public's concerns in the planning process. This study also reveals aspects of perceptions that significantly affect the use and management of state parks.

An understanding of visitor preferences and levels of satisfaction is fundamental to recreation planning as a dynamic and incremental process that affects the spatial structure and function of urban settlements. Because it relates leisure time to space (Gold 1973), recreation planning should be viewed as an integral part of physical and social planning. As Webb and Hatry (1973), Murphy and Howard (1977), and Mitchell and Smith (1985) have suggested, knowledge of user perceptions and behavior can be used to assess the recreation needs of special populations, to recognize existing and potential problems, to project public opinion, and to determine the effectiveness of existing recreation activity and programs.

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APPENDIX 1

QUESTIONNAIRE FOR RECREATION PLANNING

OF

MASSACHUSETTS STATE PARKS

NSD Research Associates
Framingham State College
Department of Geography
Framingham, Mass. 01701

For office use only

Questionnaire number_____

1. Interviewer Name_____
2. Date of Interview_____
3. Place of Interview (state park)_____
4. Address of Respondent (town & state only)_____

INTRODUCTION

Before we start, I would like to assure you that this interview is confidential and completely voluntary. Your name will not be asked and will not be placed on this form. If there is any question that you do not wish to answer, please let me know, and I will go on to the next question. This interview should only take a few minutes of your time. Thank you in advance for helping us with this recreation planning survey.

PART I --- Socioeconomic Characteristics of Park Users

1. Sex:
   1.1 _____ male
   1.2 _____ female

2. Age Category:

   2.1 _____ under 18
   2.2 _____ 18-34
   2.3 _____ 35-49
   2.4 _____ 50-64
   2.5 _____ 65 & over

3. Marital Status:

   3.1 _____single
   3.2 _____married
   3.3 _____divorced/separated
   3.4 _____widowed

4. Education:

   4.1 _____below high school
   4.2 _____high school diploma
   4.3 _____college degree
   4.4 _____graduate degree

5. Annual Income Category:

   5.1 _____under $20,000.
   5.2 _____20,000-29,999.
   5.3 _____30,000-39,999.
   5.4 _____40,000-49,999.
   5.5 _____over $50,000.

6. Ethnic Background:

   6.1 _____ white, non-hispanic
   6.2 _____ black
   6.3 _____ Hispanic
   6.4 _____ Asian
   6.5 _____ other, please specify _____.
   6.6 _____ no answer

7. Do you or anyone in your group/family visiting this park have any disabilities?

   7.1 _____ mobility impairment
   7.2 _____ sight impairment
   7.3 _____ hearing impairment
   7.4 _____ other, please specify _____.

8. How many persons including yourself live in your household? _____

9. Are you originally from Massachusetts?

   9.1 _____ yes
   9.2 _____ no

10. Did you come from out of state to visit this park?

    9.1 _____ yes
    9.2 _____ no
    If yes, from what state _____.

PART II --- Trip Information

11. During the summer, how many times do you go to state parks?
    Approximately: _____ times

12. Do you usually go to state parks during weekends, holidays, or weekdays?
    11.1 _____ weekends
    11.2 _____ holidays
    11.3 _____ weekdays

13. Do you usually come to this state park, another state park, or a non-state park?
    13.1 _____this park
    13.2 _____ another state park specify _____
    13.3 _____ non-state park

14. Do you usually come to this park:

    14.1 _____ by yourself
    14.2 _____ with family group
    14.3 _____ with friends group

15. How do you usually travel to this park?;

    15.1 _____ car
    15.2 _____ mass transit
    15.3 _____ bike
    15.4 _____ walk
    15.5 _____ other, please specify _____

16. How did you find out about this park?
    16.1 _____ family has been coming here for years?
    16.2 _____ friend or relative
    16.3 _____ newspaper
    16.4 _____ Massachusetts travel map, park map, or brochure
    16.5 _____ radio
    16.6 _____ television
    16.7 _____ other, specify _____

PART III --- Recreation Activities

17. What are the purposes of your visit to this park?

    17.1 _____ day trip
    17.2 _____ short visit
    17.3 _____ major vacation

18. What are the recreation activities that attracted you most to this park? Check all the items that apply:

    1. _____ sightseeing
    2. _____ hiking
    3. _____ picnicking/cookout
    4. _____ sports & games
    5. _____ camping
    6. _____ swimming
    7. _____ sunbathing
    8. _____ boating
    9. _____ bike trails
    10. _____ fishing
    11. _____ waterskiing
    12. _____ mountain climbing
    13. _____ photography
    14. _____ bird watching
    15. _____ historical sites
    16. _____ special natural features
    17. _____ other, specify _____

19. Are there any other activities you would like to see in this park, but are not now available?

    19.1 _____ yes
    19.2 _____ no
    If yes, which ones _____.

20. Evaluate the following services as they apply to this park:

Services	good	fair	poor
1. water supply			
2. campgrounds			
3. entrance fees			
4. staffing (no. of rangers)			
5. parking			
6. picnic & cookout facilities			
7. restroom facilities			
8. hiking & nature trails			
9. swim areas & beaches			
10. boat ramps & docks			
11. signs			
12. information & maps			
13. roads within park			
14. bike trails			

PART IV --- Perceptions and Values of Park Users.

21. Do you feel that your opportunities for recreation activities in state parks are adequate?

21.1 _____ yes
21.2 _____ no
21.3 _____ don't know

22. Do you feel that the current fee increase from $3.00 to $5.00 is fair & justified?

22.1 _____ yes
22.2 _____ no
22.3 _____ don't know

23. How aware are you of the various state parks in Massachusetts? Would you say you are:

23.1 _____ very aware
23.2 _____ somewhat aware
23.3 _____ unaware or don't know

24. Thinking about the quality of state parks in Massachusetts, would you say you are:

24.1 _____ very satisfied
24.2 _____ somewhat satisfied
24.3 _____ somewhat dissatisfied
24.4 _____ very dissatisfied
24.5 _____ don't know

25. Do you feel that Massachusetts has enough state parks?

25.1 _____ yes
25.2 _____ no
25.3 _____ don't know

26. Do you feel that state government should spend more of its available state parks & recreation funds on: Check as many as apply:

26.1 _____ maintaining & improving existing facilities.
26.2 _____ enlarging existing parks & facilities.
26.3 _____ developing new parks & facilities.
26.4 _____ developing more new activities.
26.5 _____ adding more park staff and rangers.
26.6 _____ purchase more land for conservation/open space.

27. Have you visited other types of state parks such as cultural, historical, or heritage parks (such as Freedom Trail, Fall River, Lowell, or Western Gateway Heritage State Parks).

27.1 _____ yes
27.2 _____ no

Thank you for your time and information in this survey.