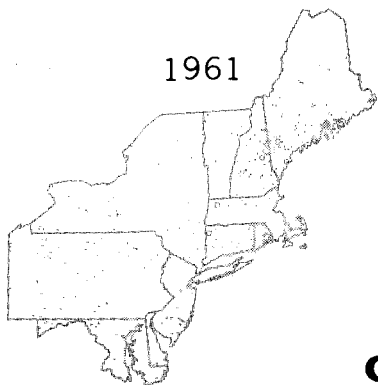
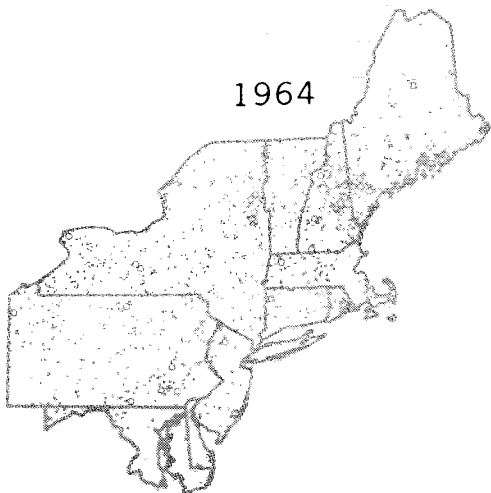


1961



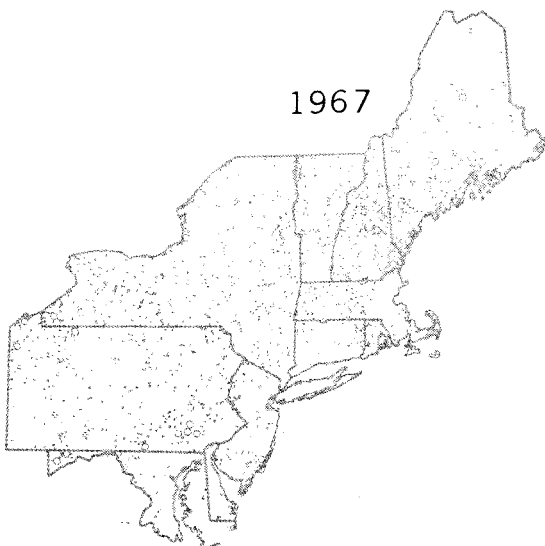
Growth of the CAMPING MARKET in the Northeast

1964



by George H. Moeller

1967



U.S.D.A. FOREST SERVICE RESEARCH PAPER NE-202

1971

**NORTHEASTERN FOREST EXPERIMENT STATION, UPPER DARBY, PA.
FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE
WARREN T. DOOLITTLE, DIRECTOR**

THE AUTHOR

GEORGE H. MOELLER is a research forester in recreation with the Northeastern Forest Experiment Station's research project at the New York State University College of Forestry at Syracuse University, Syracuse, N. Y. He holds B.S. and M.S. degrees in forest economics from Southern Illinois University and studied social research methods at the University of Michigan's Institute for Social Research. He joined the USDA Forest Service in September 1965 and has served at the Syracuse recreation project since March 1968.

MANUSCRIPT SUBMITTED FOR PUBLICATION 8 OCTOBER 1970.

Growth of the CAMPING MARKET in the Northeast

●

Contents

CAMPING MARKET GROWTH	1
PROCEDURE	5
MARKET GROWTH AND GEOGRAPHIC FEATURES	6
Distance from major water bodies	6
Empty land areas	8
Forest cover	11
Topography	11
MARKET GROWTH AND DEMAND	14
Distance from population centers	14
Local population density	15
MARKET GROWTH AND CLUSTERING	15
MARKET GROWTH TRENDS	17
SUMMARY AND CONCLUSION	19

ALMOST LIKE an atomic explosion, the number of commercial campgrounds in the Northeast mushroomed 800 percent between 1961 and 1967. During this same period, the number of public campgrounds increased by only 40 percent.

The pattern of commercial and public campground growth in the Northeast was studied over a 6-year period to find how such growth may relate to geographic features, population distribution, and existing campground locations. This information provides insight into future campground-market growth trends, and may be useful in developing recreation programs and policies.

CAMPING MARKET GROWTH

During a span of 6 years, the camping market shifted from dominance by the public sector to dominance by the commercial sector, in terms of campground numbers. In 1961, public campgrounds outnumbered commercial campgrounds 273 to 160 — a ratio of almost 2 to 1. By 1967, the market composition had reversed to a ratio of 4 to 1 in favor of commercial campgrounds (table 1).

Table 1.—*Campground market growth in the Northeastern States, 1961-67*
[Number of campgrounds]

State	1961		1964		1967	
	Commercial	Public ¹	Commercial	Public ¹	Commercial	Public ¹
Connecticut	0	20	8	21	25	22
Delaware	0	2	5	2	12	4
Maine	66	18	136	23	206	26
Massachusetts	10	24	52	29	80	34
Maryland	3	15	16	16	40	26
New Hampshire	40	30	115	33	183	35
New Jersey	8	9	40	9	88	18
New York	16	85	297	89	421	105
Pennsylvania	7	44	203	55	279	64
Rhode Island	3	1	7	2	17	5
Vermont	7	25	39	30	77	38
Total	160	273	918	309	1,428	377

Source: Yearly summaries were compiled from sources identified in figures 1, 2, and 3.

¹Includes State, Federal (National Park Service, USDA Forest Service, Corps of Engineers), and community or town campgrounds.

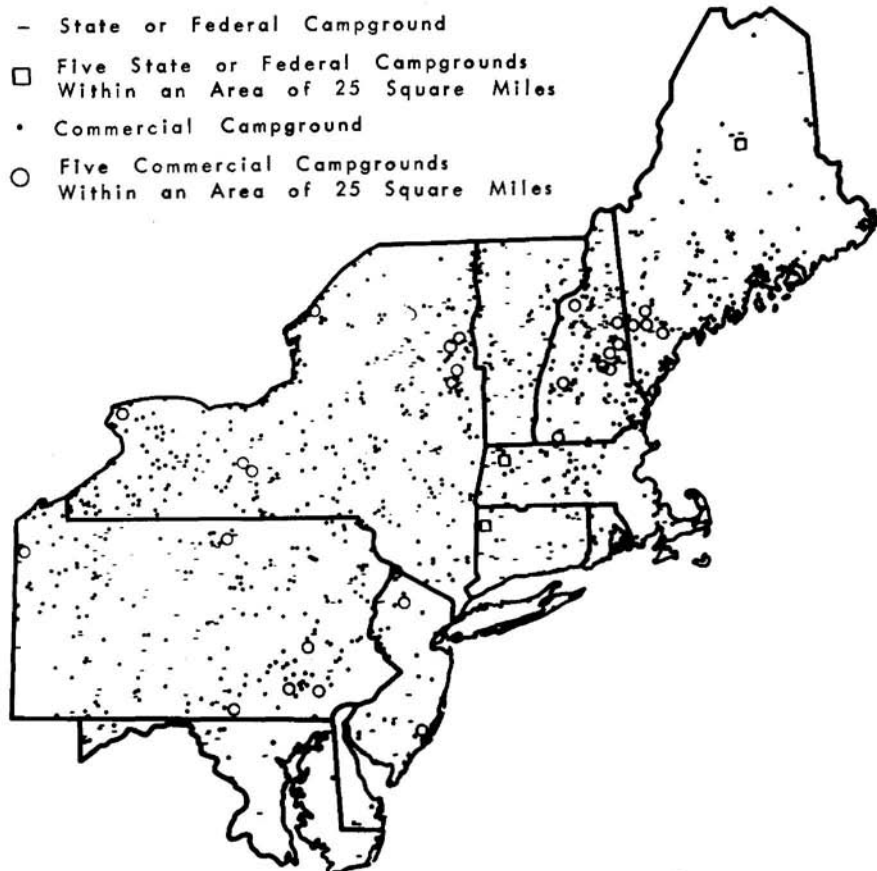


Figure 2.—Campgrounds of the Northeast, 1964. Compiled from *Private Campgrounds U.S.A.* and *Camping Maps U.S.A.*, 1965; Bureau Outdoor Recreation Public Sector Inventory; *Family Campground Directory for New York State*, 1965; Campground Association directories 1964; Corps of Engineers recreation directories; correspondence with state and federal recreation agencies.

By 1964, commercial campgrounds outnumbered public campgrounds 918 to 309 (fig. 2), and by 1967, commercial campgrounds outnumbered public campgrounds 1428 to 377 (fig. 3). Although commercial campground growth was scattered throughout most of the Northeast, major concentrations or clusters occurred around existing public recreation lands, resort areas, seashores, and lake areas.

- State or Federal Campground
- Five State or Federal Campgrounds Within an Area of 25 Square Miles
- Commercial Campground
- Five Commercial Campgrounds Within an Area of 25 Square Miles

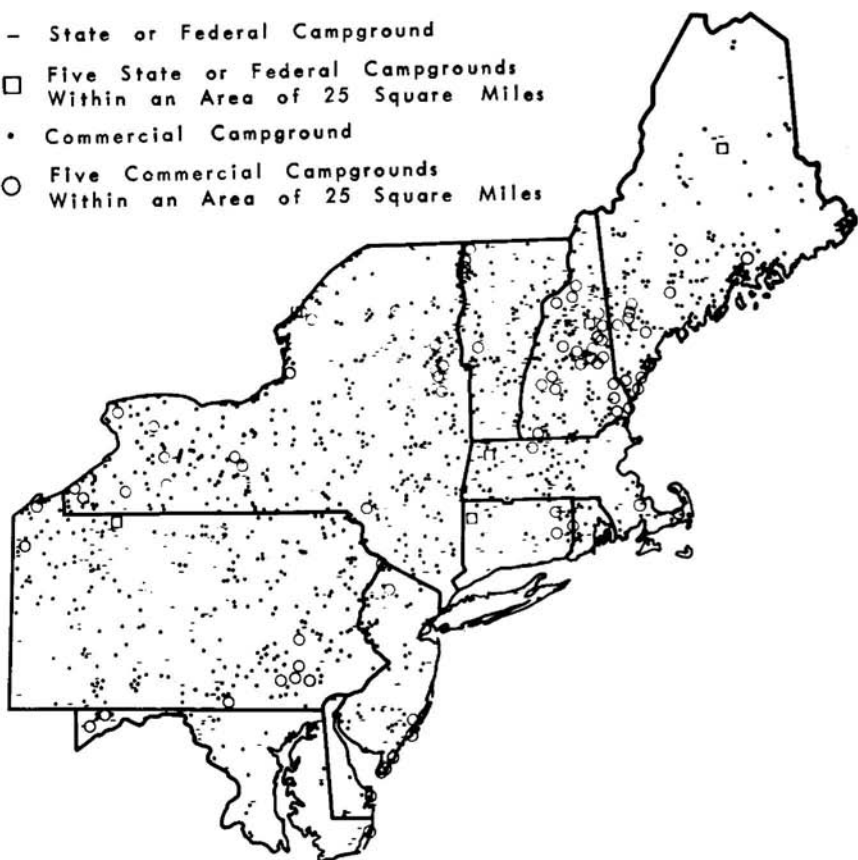


Figure 3.—Campgrounds of the Northeast, 1967. Compiled from *Private Campgrounds U.S.A.*, 1968; *Rand McNally Guidebook to Campgrounds*, 1968; *Woodall's Camping Directory*, 1968; correspondence with state and federal recreation agencies.

Statistical procedures described by Crow *et al.* (1960) were used to determine if campgrounds were distributed randomly in the Northeast. A transparent overlay was used to construct a frequency distribution of the number of commercial and public campgrounds falling within 20-mile grid squares. The frequency distribution obtained was compared, using a Chi-square test, to the distribution that would be expected if campgrounds were randomly distributed. Neither commercial nor public campgrounds were found to be distributed randomly throughout the Northeast

in 1961, 1964, or 1967. (Randomness was rejected at the 0.99 probability level.) Because campgrounds were not distributed randomly, possible relationships between selected geographic characteristics and campground location patterns were examined.

PROCEDURE

Each geographic characteristic considered in this study was divided into several zones. A *zone* was a particular area of land in the Northeast delineated according to: (1) proximity to major water bodies; (2) amount of open space; (3) density of forest cover; (4) topography; (5) distance from major metropolitan centers; (6) county population density; or (7) campground clustering.

The relationships between campground location and selected geographic characteristics were examined according to the following rationale: if campgrounds in the Northeast are evenly distributed, the proportion of campgrounds in a given zone should be approximately equal to the proportion of the land area in the zone. The same reasoning applies to the increase in the number of campgrounds over time, or campground market growth, within a particular zone. If campground market growth was evenly distributed throughout the Northeast, the *expected* proportion of campground growth that occurred in a zone should be approximately equal to the proportion of the total land area in that zone. The *actual* campground market growth was measured as the proportion of total campground growth in the Northeast that occurred in a particular zone.

The magnitude of the difference between the *expected* and *actual* campground growth within a given zone was used as an indication of the relationship between campground growth and a zone's characteristic. If actual campground market growth was less than expected growth, a zone's characteristic was assumed to be negatively related to campground growth. If actual and expected growth percent were approximately equal, the zone's characteristic was assumed to be unassociated with campground market development. Finally, if actual campground growth was greater than expected growth, the characteristic used to define a

zone was assumed to be associated with campground market growth.

MARKET GROWTH AND GEOGRAPHIC FEATURES

Differences of 5 percent or more between actual and expected campground growth percents were used to report important associations between a zone's characteristics and campground growth. A difference as small as 5 percent may not seem important; however, in a regional study incorporating a large area where the total population is represented (all campgrounds in the Northeast), a difference of 5 percent may represent a large number of campgrounds. The significance of percent comparisons will vary with the number of observations used in calculating percents. Therefore, in interpreting the significance of results, the reader should keep in mind that campground market growth—the total 6-year change in the number of commercial and public campgrounds from 1961 to 1967—was 1,268 commercial campgrounds and 104 public campgrounds.

Distance from Major Water Bodies

The importance of water to the camping experience has been well documented. However, the role that water plays in locating campgrounds has not been examined. A 1965 USDA water resources map was used to define major bodies of water. The base map was used to construct a system of 5-mile proximity-to-water zones adjacent to major water resources in the Northeast. Proximity-to-water zones were used to compare the percent of actual commercial and public campground growth occurring in a zone with the percent of the Northeastern study area contained in the zone.

Results of a comparison of the actual and expected growth percents within distance from water zones underscores the close association between campground market growth and distance from major water resources. The area contained within the 0 to 5-mile proximity-to-water zone represented 37.2 percent of the total land area in the Northeast, but 59.3 percent of commercial

and 62.5 percent of public campground growth occurred in the zone (table 2). Therefore, growth in the commercial camping market was 22.1 percent greater than expected, and growth in the public sector was 25.3 percent greater than would be expected if campground market growth was not associated with proximity-to-water.

Percent of commercial and public campground growth was approximately equal to the percent of land area contained in all zones greater than 10 miles from major water bodies. However, actual commercial and public campground growth were, respectively, 10.5 percent and 20.1 percent less than the expected growth in the 5- to 10-mile zone (table 2).

Table 2.—Campground market growth in relation to proximity to major water bodies, 1961-67

Proximity-to-water zone (miles)	Expected campground market growth ¹	Actual campground market growth			
		Type of campground	Year	Campgrounds in zone	Proportion of total growth within zone ²
	<i>Percent</i>			<i>No.</i>	<i>Percent</i>
0-5	37.2	Commercial	1961	122	59.3
			1967	873	
		Public	1961	145	62.5
			1967	210	
5-10	23.0	Commercial	1961	12	12.5
			1967	171	
		Public	1961	40	2.9
			1967	43	
10-20	22.6	Commercial	1961	12	14.5
			1967	196	
		Public	1961	40	20.2
			1967	61	
20+	17.2	Commercial	1961	14	13.7
			1967	188	
		Public	1961	48	14.4
			1967	64	

¹Expected campground market growth = percent of the total Northeastern study area contained in each proximity-to-water zone.

²Proportion of total growth = $\frac{\text{Commercial (or public) campground growth in the zone (1961-67)}}{\text{Total commercial (or public) campground growth in the Northeast (1961-67)}}$.

Empty Land Areas

Categories of empty land areas in the Northeast were also related to the growth of the camping market. A map prepared by Klimm (1954) was used to divide the study area into empty-area zones (fig. 4). Klimm's map was constructed by grouping land areas according to patterns of empty-area tracts. An empty-area tract was defined as a land unit having a minimum dimension of 1 mile, that was uninhabited, was not used for agriculture, and contained no occupied structure. Empty-area patterns were

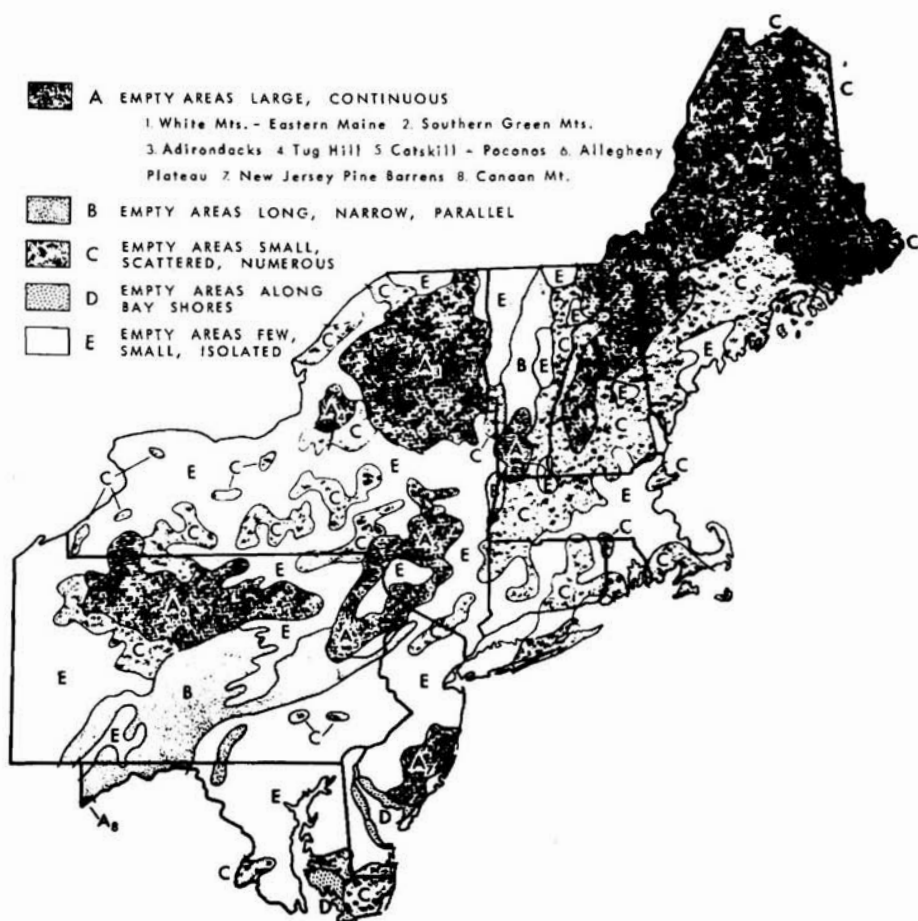


Figure 4.—Categories of empty areas in the Northeastern United States. Source: Klimm, Lester E., 1954: The empty areas of the Northeastern United States; *Geog. Rev.* 44 (3): 325-345 (reproduced with permission of the publisher).

Table 3.—Campground market growth in relation to empty areas, 1961-67

Empty-area zone	Expected campground market growth ¹	Actual campground market growth			Proportion of total growth within zone ²
		Type of campground	Year	Campgrounds in zone	
	<i>Percent</i>			<i>No.</i>	<i>Percent</i>
Large-continuous	30.9	Commercial	1961	49	22.0
			1967	328	
		Public	1961	103	37.5
			1967	142	
Long-narrow-parallel	7.4	Commercial	1961	8	6.0
			1967	84	
		Public	1961	28	7.7
			1967	36	
Small-scattered-numerous	20.5	Commercial	1961	59	25.1
			1967	378	
		Public	1961	70	21.2
			1967	92	
Along-bay-shores	0.1	Commercial	1961	0	0.6
			1967	7	
		Public	1961	0	0.9
			1967	1	
Few-small-isolated	41.1	Commercial	1961	44	46.3
			1967	631	
		Public	1961	72	32.7
			1967	106	

¹Expected campground market growth = percent of the total Northeastern study area contained in each empty area zone.

²Proportion of total growth = $\frac{\text{Commercial (or public) campground growth in the zone (1961-67)}}{\text{Total commercial (or public) campground growth in the Northeast (1961-67)}}$.

determined by size, shape, texture, and frequency of empty-area tracts. Empty-area patterns were grouped into five broad empty-area zones. Klimm's map was used to compare actual campground market growth occurring within each empty-area category with the land area contained in each category (table 3).

The percent of actual commercial and public campground growth was approximately equal to expected growth for three of the empty-area zones: long-narrow-parallel; small-scattered-

numerous; and empty areas along bay shores—zones B, C, and D, respectively (fig. 4).

Actual campground growth and expected growth were unequal and showed opposite growth patterns for commercial and public campgrounds in the two remaining empty-area zones: large continuous and few-small-isolated—zones A and E, respectively fig. 4.

Though 30.9 percent of the land area in the Northeast is contained in the large-continuous empty-area zone, only 22.0 percent of the commercial growth occurred there; but 37.5 percent of the public growth took place in that zone. Therefore commercial growth was 8.9 percent less than expected and public growth was 6.6 percent greater than expected (table 3). Since much of the rugged and relatively unpopulated land in the Northeast is either in public ownership or is owned by large timber companies, the fact that actual public campground market growth was greater than expected growth in such areas is not too surprising. Public campgrounds were already extensively developed in unsettled areas of the Northeast before 1961. Commercial campground development in mountainous regions was probably less than one would expect because of the lack of nearby population demand centers and the relative scarcity of private land ownership. Public campgrounds, not necessarily required to operate at a profitable level, can apparently locate in sparsely populated areas far from demand centers.

Forty-one percent of the land area in the Northeast is contained in the few-small-isolated empty-area zone. However, 46.3 percent of the commercial growth and only 32.7 percent of the public growth occurred in that zone. Commercial campground market growth was 5.2 percent greater than expected and public growth was 8.4 percent less than expected (table 3). This relationship illustrates the relative flexibility of the commercial sector of the camping market to locate near populated areas. Conversely, public campground development is less than expected in such areas, perhaps because public land is scarce and expensive near population centers.

The above market growth relationships reflect the complementary relationship between the commercial and public sectors

of the total camping market. Public campgrounds have located in relatively remote areas, without necessarily being associated with distance from population centers. In terms of empty-area zones, the combined effect of the growth in commercial and public sectors of the campground market has been to produce a higher level of total campground supply—in terms of overall services provided—than if either sector existed alone to satisfy total camping demand.

Forest Cover

A third factor of the physical environment that was studied for its association with camping market growth was forest cover. Forest cover was described for the Northeast by grouping counties into four forest-cover zones: 0 to 24 percent, 25 to 49 percent, 50 to 74 percent, and 75+ percent forested.

The percent of commercial and public campground growth occurring in the four forest-cover zones was approximately equal to the proportion of land area in each zone. However, public campground growth was slightly overrepresented in the more densely forested zones and somewhat underrepresented in the lightly forested zones. Commercial growth showed an opposite relationship: it was slightly underrepresented in the densely forested zones and somewhat overrepresented in the lightly forested zones. Although the observed differences between the actual and expected growth percents within forest-cover zones were not large, the observation does add some weight to earlier results indicating that public campground growth has been associated with wild land and heavily forested areas, while commercial campground growth has not been associated with wild land resource areas to the same extent.

Topography

Four general land-surface zones were used to associate campground market growth to surface terrain: Mountainous, hilly, flat, and coastal (fig. 5).

Actual commercial camping market growth occurring in the mountainous zone was approximately equal to expected growth

(table 4). Actual public campground market growth, however, exceeded expected growth in mountainous areas by 9 percent. In the hilly zones actual commercial growth was approximately equal to expected growth, but public campground market growth was 14 percent less than expected.

Both commercial and public campground growth were negatively associated with flat land surface, and positively associated with coastal zones. In flat areas, actual commercial growth was 5.4 percent less than expected, and public growth was 5.1 percent less than expected. Apparently, predominantly flat regions are

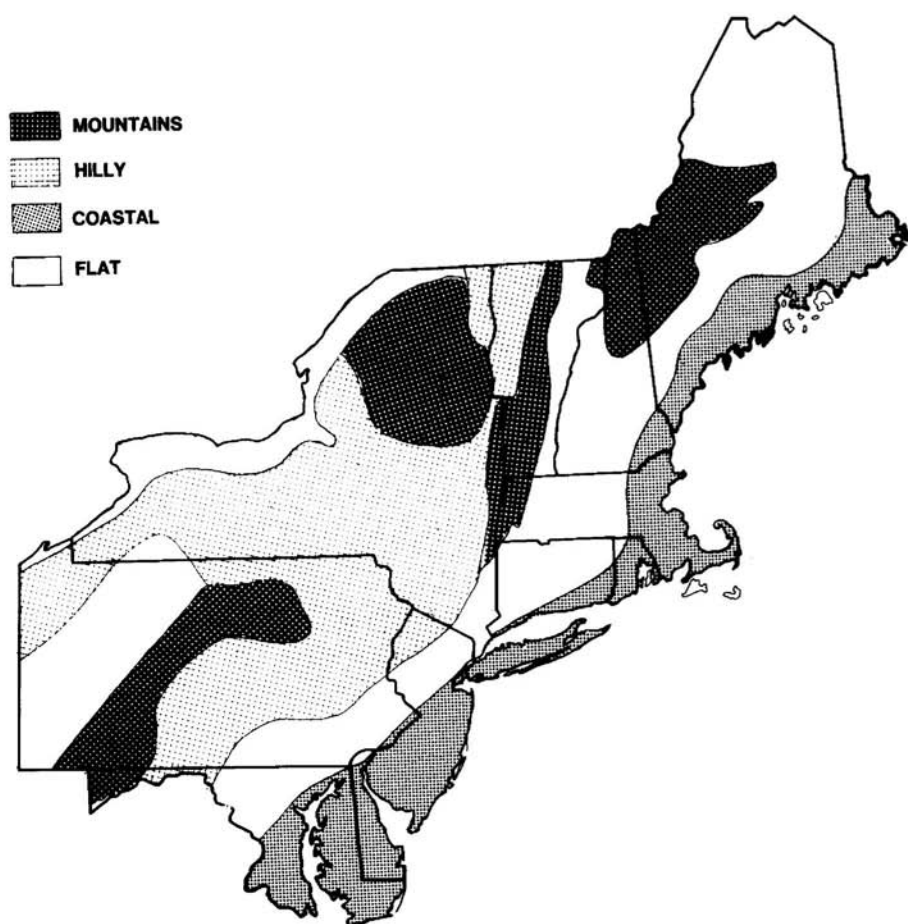


Figure 5.—General land-surface forms in the Northeast. Adapted from *A Forest Atlas of the Northeast*, by Howard W. Lull, USDA Forest Serv. NE. Forest Exp. Sta., 1968.

Table 4.—Campground market growth in relation to land-surface form, 1961-67

Land-surface form zone	Expected campground market growth ¹	Actual campground market growth			
		Type of campground	Year	Campgrounds in zone	Proportion of total growth within zone ²
	Percent			No.	Percent
Mountains	19.9	Commercial	1961	22	17.2
			1967	239	
		Public	1961	104	28.9
			1967	134	
Hilly	25.5	Commercial	1961	11	27.3
			1967	358	
		Public	1961	46	11.5
			1967	58	
Flat	32.9	Commercial	1961	58	27.5
			1967	407	
		Public	1961	63	27.9
			1967	92	
Coastal	21.7	Commercial	1961	69	28.0
			1967	424	
		Public	1961	60	31.7
			1967	93	

¹Expected campground market growth = percent of the total Northeastern study area contained in each land-surface form zone.

²Proportion of total growth = $\frac{\text{Commercial (or public) campground growth in the zone (1961-67)}}{\text{Total commercial (or public) campground growth in the Northeast (1961-67)}}$.

not desirable for extensive commercial or public campground development, unless some other attraction exists such as a major water resource or historical attraction. In the coastal area, actual commercial growth exceeded expected growth by 6.2 percent, and public growth was 10.1 percent greater than expected. This relationship supports an earlier finding that water resources are extremely important to the location of both commercial and public campgrounds.

The distribution of campground market growth relative to topography shows that land-surface form is more strongly associated with public campground market development than with commercial growth. Growth of commercial campgrounds was

roughly proportional to the land area contained in the four land-surface zones. Actual public growth, however, was disproportionate to the land area in all four zones; that is, in the mountainous and coastal zones, public growth was greater than expected, while in flat and hilly areas, public growth was less than expected.

MARKET GROWTH AND DEMAND

Two indicators were used to associate campground market growth and demand. The purpose of the first was to examine the association between camping market growth and distance from major population centers. The purpose of the second demand indicator was to determine the association between market growth and local population density.

Distance from Population Centers

A system of proximity-to-demand zones surrounding major population centers was used to investigate the association between campground market growth and distance from potential demand centers. Proximity-to-demand zones were determined by drawing circles with a 100-mile radius around all metropolitan areas in the Northeast having a population of at least $\frac{1}{2}$ million. Resulting 100-mile-radius zones were grouped on the basis of size of the population they represented. Demand potentials represented by the zones were added wherever zones overlapped. Five proximity-to-demand zones were determined: A $\frac{1}{2}$ to 1 million zone; a 1 to 5 million zone; a 5 to 10 million zone; a more than 10 million zone; and a zone made up of land area falling outside the 100-mile proximity zones.

Actual commercial and public campground growth was distributed in approximate proportion to the land area contained in each of the five proximity-to-demand zones. The actual growth and expected growth differed appreciably in only one zone—the area more than 100 miles from major urban centers. In this zone, both commercial and public growth was 8.1 percent less than the expected growth.

Local Population Density

The second indicator of demand related campground market growth to local population density. Counties were grouped into six population-density zones: 0 to 74, 75 to 149, 150 to 299, 300 to 599, 600 to 1,199, and 1,200 or more people per square mile.

Campground growth in the six population-density categories showed no association with local population density. The amount of campground growth occurring in each county population-density zone was approximately what would be expected if growth were distributed randomly over the entire Northeast.

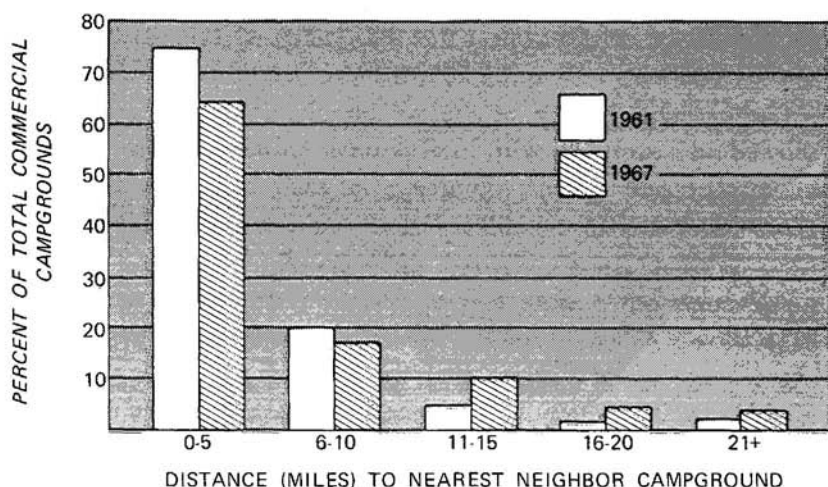
Although other more precise spatial demand indicators may have shown different results, the rather crude indicators of demand used above suggest that neither distance from demand centers nor local population density are associated with commercial or public camping market growth. However, further study, using more precise demand indices, is needed to provide more insight into the nature of the association.

MARKET GROWTH AND CLUSTERING

Camping market growth from 1961 to 1967 was associated with the distribution of campgrounds that existed at the beginning of the period. The relationship between the spatial distribution of campgrounds existing in 1961, and subsequent market growth to 1967, indicates a high degree of interdependence or complementarity within the camping market, as it developed over the 6-year growth period.

Even though the number of commercial campgrounds increased 8-fold during the 6-year period, the spatial distribution of campgrounds within the camping market remained fairly consistent (fig. 6). In 1961, almost 75 percent of commercial campgrounds were located within 5 miles of another commercial or public campground. By 1967, this proportion had decreased slightly to 65 percent. In 1961, 4.2 percent, and in 1967, 15.6 percent of commercial campgrounds were more than 10 miles from another campground.

Figure 6.—Commercial campground growth in relation to distance from nearest public or commercial campground, 1961 and 1967.

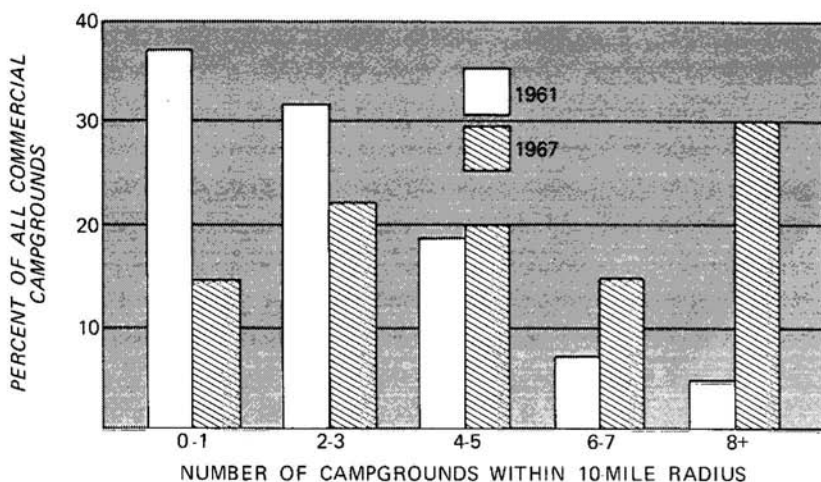


Another method used to describe locational relationships in the campground market was a campground clustering measure based on the number of campgrounds falling within a 10-mile radius of each existing campground.

In 1961, 70 percent of commercial campgrounds had less than 4 commercial or public campgrounds within a 10-mile zone, and 5 percent had at least 8 other campgrounds within a 10-mile radius. By 1967, the camping market had become much more clustered, 35 percent of commercial campgrounds having fewer than 4 commercial or public campgrounds within a 10-mile radius, and 29 percent of commercial campgrounds having at least 8 other campgrounds within a 10-mile radius (fig. 7).

Through the 1961-67 period, the Northeastern camping market became highly clustered, with new market growth occurring near existing campgrounds. Clustering of campgrounds can be attributed to at least two factors. First, as considered earlier, campgrounds tended to concentrate in areas containing resources with recreation attraction or appeal. Second, spatial clustering within the market may have resulted from complementary market relationships among campgrounds. Localization economies, re-

Figure 7.—Number of campgrounds within a 10-mile radius of existing commercial or public campgrounds, 1961 and 1967.



sulting in complementary services and facilities, may enhance campground clustering in the same way that other kinds of businesses tend to cluster together for mutual economic benefit. Clustering of campgrounds around a central area tends to give the particular area a regional identity, thereby providing the opportunity for joint regional advertising campaigns.

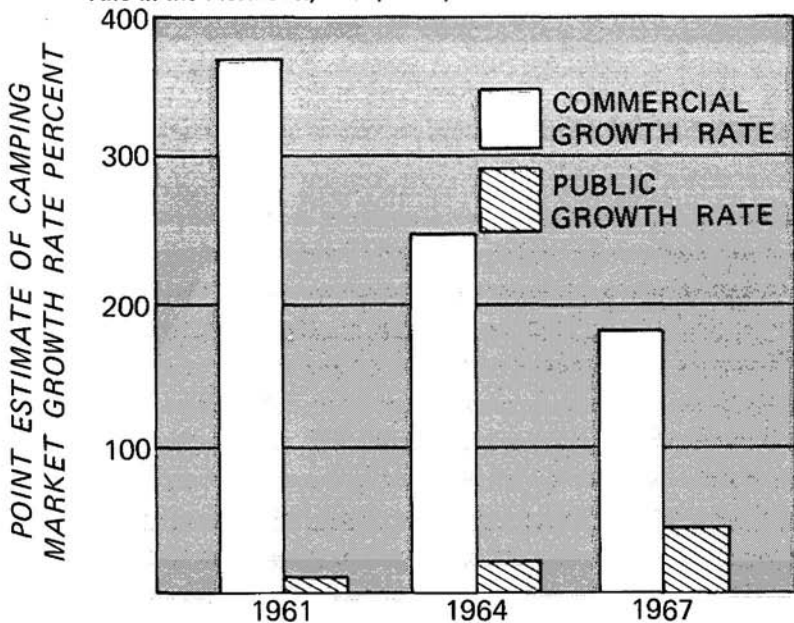
MARKET GROWTH TRENDS

Camping market data used in this study were compiled by cross-referencing campground directories for the three years 1961, 1964, and 1967. Because of the relative scarcity of camping directories and subsequent under-reporting, the inventory of campgrounds may be incomplete for 1961. By 1967, many campground directories were produced, and campgrounds may have been somewhat over-reported because of cross-indexing and reporting errors. Although these potential sources of error are recognized, little can be done about them, because no single source of campground inventory data was available for the entire 6-year study period.

Market growth trends were determined by measuring the rate of change in the growth of the commercial and public camping markets for the years 1961, 1964, and 1967. The growth-rate measurements describe the percent rate of growth in the camping market, at a particular point in time, and provide a basis on which to base future camping market growth predictions.

The growth rate of the commercial camping market was greater than the public market growth rate throughout the 6-year study period (fig. 8). In 1961, commercial campgrounds in the Northeast were increasing at the rate of 375 per cent per year, while the public growth was 9 percent per year. By 1967, the commercial camping market growth rate had decreased to 189 percent and the public growth rate had increased to 38 percent. Though the number of campgrounds in the commercial campground market has been increasing rapidly, the growth has been increasing at a decreasing rate, just as a man nearing a mountain

Figure 8.—Commercial and public camping market growth rate in the Northeast, 1961, 1964, 1967.



top climbs higher, but at a slower rate. On the other hand, the public campground market has been growing at an increasing rate.

The commercial camping market growth pattern is typical of any new market where demand exceeds effective supply. Initially, the commercial camping market developed rapidly because of growing demand for camping facilities. As the supply of commercial campgrounds started to meet the demand in some regions, the growth rate started to decline. In some areas, where market supply saturation occurred, the growth of commercial campgrounds may have stopped, while in other areas, where demand was still not met, growth continued at an increasing rate. In numbers of campgrounds, the commercial camping market is continuing to expand, but at a reduced rate, a trend that is likely to continue in the future (fig. 8).

While total growth occurring in the public camping market has been less than in the commercial market, the public camping market rate of growth has continued to increase slowly. The increase in the rate of public camping market growth is a reflection of public policy, at all levels of government, to meet the growing demand for public camping facilities. If current public policy is continued, the public camping market is likely to continue to grow at an increasing rate.

SUMMARY AND CONCLUSION

The 1961 to 1967 camping market growth in the Northeast was examined to relate market growth patterns to selected geographic features, population distribution, and existing campground locations.

Commercial and public camping market growth was positively associated with proximity to major water resources: approximately 60 percent of total camping market growth occurred within 5 miles of major water resources. However, opposite market growth relationships were found between the commercial and public camping markets when growth was associated with geographic resource distributions other than water. While public market growth was associated with unsettled, heavily forested, and moun-

tainous zones; commercial growth was less than expected in such zones. Conversely, commercial market growth was associated with relatively settled areas, and with less heavily forested zones. Commercial camping market growth was not, however, associated with topography.

Two population-related measures were used to indicate the association between camping market growth and potential demand for camping. The purpose of the first demand measure was to relate camping market growth to distance from large metropolitan centers, and the other to relate growth to local population density. Neither of these demand indicators was associated with camping market growth.

Campground clustering increased through the 6-year study period. Though campground clustering was related to the distribution of recreation resources, complementary relationships between clustered campgrounds and resulting regional localization economies also could be important in influencing market structure.

Total growth curves for the commercial and public camping markets were used to measure camping market growth rates for the years 1961, 1964, and 1967. Through this period, the rate of growth in the commercial market was always larger than the rate of growth in the public market. However the commercial camping market growth rate showed a downward trend, while the public growth rate trend increased gradually through the study period.

In numbers of campgrounds, the total camping market is likely to continue to grow in the future, but at a slower rate than in the past. The future camping market growth rate will, however, be influenced by the growth in camping demand, and by changes in public policy.

REFERENCES

- Crow, E. L., F. A. Davis, and M. W. Maxfield. 288 pp. Dover Publications, New York, N. Y.
1960. STATISTICS MANUAL, WITH EXAMPLES TAKEN FROM ORDNANCE DEVELOPMENT RESEARCH DEPT., U. S. NAVAL ORDNANCE TEST STATION.
- Klimm, Lester E. 1954. THE EMPTY AREAS OF THE NORTH-EASTERN UNITED STATES. Geo. Rev. 44 (3): 325-345.



THE FOREST SERVICE of the U. S. Department of Agriculture is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives — as directed by Congress — to provide increasingly greater service to a growing Nation.