

THE 1992 VERMONT RECREATION SURVEY AND ENVIRONMENTAL INDEX: VERMONTERS' PERCEPTIONS OF RECREATIONAL AND ENVIRONMENTAL ISSUES IN VERMONT

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In 1992, Vermonters rated the state's recreational resources a "B-" with a corresponding grade of "B" for the quality of the state's environment. Scenic resources continued to be rated most highly as were state trails and commercial recreation establishments. Concern for water resource quality, solid and toxic waste disposal, acid rain, agricultural land loss, and increasing development, was discovered. Recreation greenways and the accommodation of bicyclists in road development was supported as was the development of lighted trails for night skiing. Perceived positive effects of tourism were matched by concerns about impacts on traffic conditions, costs of land and housing, and crime in Vermont.

Introduction

In developing the 1993 Vermont Recreation Plan, the Vermont Department of Forests, Parks and Recreation contracted the Center for Rural Studies and the School of Natural Resources at the University of Vermont to poll state residents' perceptions of recreational issues and environmental quality. The recreation plan identifies and addresses statewide recreation needs and issues and prioritizes them into legislative protections and resource allocations. The recreation plan assures that facilities and resource opportunities, planned and developed by local, state, and federal providers, correspond with the needs of citizens and maximize opportunities for the dollars spent. A final component of the study was the continuation of the Vermont Environmental Quality Index, a study begun by Dr. Robert Manning of the University of Vermont's School of Natural Resources. Since 1986, the Environmental Quality Index has focused on Vermonters' perceptions of the status of Vermont's rich and diverse natural resource base and their opinions regarding contemporary resource issues.

Methodology

From November 30, 1992, through December 5, 1992, attitudes and perceptions regarding recreation and environmental policy were gathered through a telephone survey of 510 Vermont adults. The survey response rate was 57.6%, with a refusal rate of 33.4% and a termination rate of 8.9%. Two factors were identified as possible influences on these rates: 1) the survey was conducted immediately following a major national election that had spawned numerous telephone polling activities throughout Vermont, and

2) the survey length averaged approximately 25 minutes and may have deterred some potential respondents from starting or completing the survey. The statistical confidence level of the survey results was 95% with a precision of $\pm 4\%$.

Survey responses were entered in D-BASE III+ and analyzed using the Statistical Package for the Social Sciences (SPSS-X). Simple frequencies were produced for all survey questions. T-Test analyses of mean responses and Kolmogorov-Smirnov analyses of median responses were conducted to compare survey results with the results of previous surveys conducted in 1988 and 1990 in which Vermonters were asked similar questions about recreation and the environment.

Recreational Resources

Survey respondents evaluated the quality of Vermont's recreation resources using letter grades of A, B, C, D, or F. Letter grades were converted to numerical equivalents (A=4, B=3, C=2, D=1, and F=0) in order to derive a "grade point average" (GPA). Recreation resource GPAs ranged from 2.369, a C+, for the quality of recreational services and facilities provided by local governments, both cities and towns, to 3.632, a B+, for the scenic quality of Vermont's landscape.

In addition to scenery, trails and commercial recreation establishments were ranked relatively highly in comparison to other resources. The quality of water resources for recreation--rivers, streams, lakes and ponds--along with the quality of local public recreation facilities, received relatively low grades compared to other recreation resources (Table 1).

T-Test analysis of mean survey responses for 1988 and 1992 revealed statistically significant changes in Vermonters' perceptions of the quality of recreation resources. Survey results reported significant improvement in the perceived quality of Vermont's scenery which continued to be rated rather highly in comparison to other resources in both 1988 and 1992. While the quality of local public recreation facilities remained at the bottom of the quality scale at both points in time, Vermonters reported a significant improvement in perceived quality in 1992. Significant declines in perceived quality were reported for two recreation resources: state and federal forests and parks, and Vermont's rivers and streams. While commercial recreation establishments received a lower grade of "B-" in 1992, this decline was not found to be statistically significant (Table 1).

Respondents were asked to evaluate a variety of recreational and environmental issues and potential problems, in terms of whether they were considered to be "big," "small," or "no" problems. At least half of the respondents considered each of the issues mentioned to be either big or small problems with the exception of two issues: the extent of government liability for injuries to recreationists and overcrowding of recreation trails and paths.

Looking specifically at "big" problem responses, more than half of the respondents indicated that nuisance aquatic plants were a "big" problem (56.9%), followed by the destruction of fish habitat (51.8%) and vandalism of public recreational areas (51.6%). When "big" and "small" problem responses were summed, vandalism of public recreational areas (91.0%) appeared at the top of the problem list, followed by lack of respect for private property by recreational users (87.8%), shoreland development (87.2%), and loss of Vermont's scenic landscape (82.6%). Destruction of habitat for wildlife (82.3%) and fish (81.6%) were also perceived to be problems, either big or small. At the other end of the spectrum, a substantial minority of respondents reported that the issue of crowded trails and paths was not a problem (40.9%), as well as the potential problems of posting of private land (35.3%) and lack of community outdoor recreational facilities (32.2%).

Table 1: Comparison of quality of recreation resources (1988 & 1992).

Recreation Resource	1988		1992		1988-1992
	Avg. ^a	Grade ^b	Avg. ^a	Grade ^b	Trend ^c
Scenery	3.575	B+	3.632	B+	Improvement
Trails	3.149	B	3.142	B	No Change
Commercial Recreation Establishments	3.025	B	2.981	B-	No Change
State/Federal Forests and Parks	3.090	B	2.914	B-	Decline
Lakes and Ponds	2.906	B-	2.804	B-	No Change
Rivers and Streams	2.802	B-	2.724	B-	Decline
Local Public Recreation	2.362	C+	2.369	C+	Improvement

a/ Average refers to the mean score derived from the following coding system: A=4; B=3; C=2; D=1; F=0.
b/ Grades were assigned as follows: A (Excellent) = 4.0, A- = 3.67, B+ (Good) = 3.33, B = 3.00, B- = 2.67, C+ (Fair) = 2.33, C = 2.00, C- = 1.67, D+ (Poor) = 1.33, D = 1.00, D- = 0.67, and F (Failure) = 0.00.
c/ Trends include: Decline = statistically significant decrease ($p \leq .05$); Improvement = statistically significant increase ($p \leq .05$); and No Change = no statistically significant change ($p > .05$).

Issues surrounding liability for injuries to recreationists received the greatest number of "Don't Know" responses indicating that Vermonters responding to the survey were unaware or uncertain of how these issues affected government (31.8%), commercial establishments (29.2%), and private landowners (24.4%). Respondents also expressed uncertainty regarding the issue of regulation of boat moorings on lakes with 27.8% responding with "Don't Know."

Comparison of 1992 survey responses with data collected in 1988 revealed a number of shifts in Vermonter's perceptions of the importance of recreation-related issues (See Table 3). It should be noted here that these "shifts" are the result of changes in mean survey responses of 0.1 or greater--relatively small variations that are not necessarily indicative of dramatic changes in public opinion; however, analyses of median survey responses revealed some statistically significant changes in respondent perception.

In both the 1988 and 1992 surveys, Vermonters reported the vast majority of the issues in question to be problems, either big or small. From 1988 to 1992, statistically significant declines in levels of concern were discovered in a number of areas including: destruction of wildlife habitat; shoreland development; loss of Vermont's scenic landscape; inadequate design of commercial recreation areas; liability of commercial recreation areas for injuries to recreationists; overcrowding of trails; and posting of private land against public access. Other areas where there were declines in concern from 1988 to 1992, albeit not found to be statistically significant, included: fish habitat destruction; high cost of commercial recreation areas; and overcrowding of lakes and ponds.

Statistically significant increases in levels of public concern from 1988 to 1992 were discovered regarding the high cost for use of public or government-managed recreation areas and the lack of agency responsiveness to the recreation needs of Vermonters. Other areas of increased concern that were not found to statistically significant included: lack of public information on recreation issues and opportunities; lack of indoor recreation facilities; lack of recreation trails and greenways; conflicts among users of rivers and streams; and lack of organization of recreation user groups.

Future Recreation Directions

Respondents were surveyed regarding their level of agreement, or disagreement, with a number of recreation-related issue statements. Respondents indicated high levels of agreement with the concept of community greenways for pedestrians and bicyclists (91.6%) and for the inclusion of adequate shoulder for bicyclists in the development or improvement of roads and highways (87.6%).

Regarding ski industry issues, respondents agreed with the development of night skiing facilities (72.1%). Less than half of the

respondents (47.6%) agreed that expansion of ski areas in Vermont was a good idea, and even fewer (38.1%) supported water withdrawals from rivers and streams for snow-making activities.

In terms of recreation resource development, nearly two-thirds of the respondents (63.5%) agreed with government acquisition of more land in Vermont for recreation. Just more than half of the respondents (55.4%) supported using a portion of gas taxes to help fund recreation trails and paths. Less than half of the respondents (48.4%) supported using boater registration fees to increase boating access to Vermont's waters; however, one should note that a substantial number of respondents (12.0%) indicated they did not know, or were uncertain, whether they supported this concept.

Approximately half of the respondents agreed that government and private business in Vermont cooperated well in providing recreation opportunities, while a substantial minority (35.7%) disagreed with this statement. Finally, a majority of respondents (75.9%) voiced clear support with the statement that state government should do more to promote tourism in Vermont.

Comparison of 1992 and 1988 survey responses revealed statistically significant changes in Vermonters' attitudes toward selected recreation issues. Support increased significantly for more state promotion of tourism. The expansion of ski areas in Vermont, while supported by less than half of the survey respondents, was viewed significantly more favorably in 1992 than in 1988. Support declined significantly for the designation of all-terrain vehicle areas, the development of additional swimming areas, and more government acquisition of land. Support declined regarding the development of more marinas; however this change was not statistically significant.

Recreation Expenditures

Survey respondents were asked to prioritize various spending initiatives for developing recreational opportunities in Vermont. While there was clear support demonstrated for each initiative, the maintenance of existing recreation lands and facilities was at the top of the list with 40.6% of the respondents considering this to be "very important" and 53.3% considering it "important" (Table 2).

Comparison of survey responses from 1988 and 1992 indicated that Vermonters continued viewing all four types of recreation expenditures as being important. Overall, fewer Vermonters in 1992 identified expenditures as being "Very Important"--perhaps a reflection of the economic declines experienced by Vermont as well as the rest of the nation. The maintenance of existing resources--lands and facilities--was considered to be of high importance at both points in time relative to other spending priorities (Table 2).

Table 2. Attitude toward recreation expenditures (1988, 1992).

Recreation Expenditures	Level of Importance							
	Very Important		Important		Unimportant		Very Unimportant	
	1988	1992	1988	1992	1988	1992	1988	1992
	(Percent)							
Developing Additional Facilities	12.6	13.0	62.6	62.0	23.8	21.7	1.0	1.2
Developing Additional Programs	15.7	12.8	57.1	56.9	25.1	27.3	2.1	1.0
Maintaining Existing Lands and Facilities	46.0	40.6	52.0	53.3	2.1	4.9	0.0	0.0
Acquiring Additional Lands	18.0	12.2	54.7	55.5	25.8	27.4	1.5	3.0

The 1992 Environmental Quality Index

In two-year intervals since 1986, Vermonters have been polled regarding their opinions of the quality of Vermont's environment. In 1992, the highest grades were given to Vermont's scenery (3.756), woodlands and forests (3.304), and wildlife (3.209). The quality of Vermont's water resources--rivers and streams (2.674), drinking water (2.666), ground water (2.640), and lakes and ponds (2.437) received relatively low ratings compared to other components of the environment (Table 3).

Comparison of Vermonter's perceptions of environmental quality since 1986 illustrates several trends. At each point in time, the quality of Vermont's scenery received the highest marks in comparison to other components of the environment. While the

grade for scenery remained an A- from 1990 to 1992, statistical analysis revealed that the increase in grade point average was actually a significant improvement. Other components of the environment where there were statistically significant improvements in perceived quality from 1990 to 1992 included Vermont's woodlands and forests, wildlife, deer herd, and river and stream resources. Public perception of the quality of Vermont's state parks continued to decline with the change from 1990 to 1992 being significantly different. There were no significant changes in perception of the quality of air, fisheries, drinking water, ground water, lakes and ponds, and in Vermont's overall natural environment between 1990 and 1992 (see Table 3).

Table 3. Trends in perceived environmental quality (1986-1992).

Environment	Year				Trend ^a	Grade ^b
	1986	1988	1990	1992		
	(Average)					
Scenery	3.80	3.72	3.73	3.76	Improvement	A- to A-
Woodlands/Forests	3.26	3.22	3.21	3.30	Improvement	B to B+
Wildlife	3.05	2.97	2.84	3.21	Improvement	B to B+
Air Quality	3.20	3.17	2.96	3.20	No Change	A- to A-
Overall Quality of VT Environment	3.12	3.09	2.91	3.16	No Change	B- to B
State Parks	3.45	3.24	3.34	3.12	Decline	B+ to B
Deer Herd	2.55	2.42	2.57	3.08	Improvement	C+ to B+
Fisheries	2.82	2.84	2.66	2.82	No Change	C+ to B+
Rivers & Streams	2.69	2.58	2.48	2.67	Improvement	C+ to B-
Drinking Water	2.75	2.85	2.68	2.67	No Change	B to B
Ground Water	2.70	2.76	2.50	2.64	No Change	B- to B
Lakes & Ponds	2.61	2.46	2.23	2.44	No Change	C to C+

a/ Trends include: Decline = statistically significant decrease ($p \leq .05$); Improvement = statistically significant increase ($p \leq .05$); and No Change = no statistically significant change ($p > .05$).

b/ Grades were assigned as follows: A (Excellent) = 4.0, A- = 3.67, B+ (Good) = 3.33, B = 3.00, B- = 2.67, C+ (Fair) = 2.33, C = 2.00, C- = 1.67, D+ (Poor) = 1.33, D = 1.00, D- = 0.67, and F (Failure) = 0.00.

Tourism in Vermont

Tourism is generally recognized as one of the largest industries in Vermont and its impacts on the economy, development and the state's resources are important considerations for planning. Overall, survey respondents indicated that visitors and tourists had positive effects on a variety of aspects of life in Vermont. Opportunities for jobs (68.9%), cultural activities (66.7), shopping (63.6%), and recreation (59.4%), were reported to be "good effects" of visitors and tourists. The primary "bad effect" created by tourists was perceived to be traffic conditions (70.6%), with a majority of respondents also observing a negative effect on the costs of land and housing (55.5%) and crime (52.1%). (See Table 4.)

Comparison of survey responses from 1986, 1988, and 1992, indicated that Vermonters were more negative regarding the effects of tourism on the creation of jobs and recreational opportunities in the state. Vermonters increasingly were less negative regarding the impacts of tourists on the costs of land and housing, traffic conditions, agriculture and farming, and on environmental quality. Respondents were more positive about the

effects of tourists on Vermont's scenery, the state's values, customs, and traditions, and the overall quality of life in Vermont (Table 4). In the areas of shopping and cultural opportunities, crime, and the general cost of living, Vermonters reported relatively the same perceptions of the effects of tourists.

Statistical analysis of responses from 1988 and 1992 surveys, revealed an increasingly more positive attitude of Vermonters toward visitors to the state. Significantly fewer respondents reported negative perceptions of tourists' effects on the costs of land and housing, agriculture and farming, and environmental quality. Significantly more respondents from 1988 to 1992 reported perceived positive effects of tourists on Vermont's scenery and on the overall quality of life in the state (Table 4).

Table 4. Comparison of the perceptions of the effects of tourists (1986, 1988 & 1992).

Issue	Average ^a		
	1986	1988	1992
Job Opportunities	0.62	0.49	0.54
Costs of Land/Housing	-0.43	-0.61	-0.32 ^b
Traffic Conditions	-0.70	-0.69	-0.62
Recreational Opportunities	0.52	0.30	0.43
Cultural Opportunities	0.62	0.55	0.60
Crime	-0.51	-0.47	-0.50
Vermont's Scenery	-0.03	-0.11	0.17 ^b
Agriculture & Farming	-0.16	-0.22	-0.00 ^b
General Cost of Living	-0.16	-0.32	-0.16 ^b
Shopping Opportunities	0.56	0.46	0.51
Environmental Quality	-0.19	-0.30	-0.07 ^b
VT Values, Customs, & Traditions	0.00	-0.12	0.04 ^b
Overall Quality of Life	0.27	0.17	0.35 ^b

a/ Average refers to the mean score derived from the following coding system: Good Effect=1; No Effect=0; and Bad Effect=-1.

b/ 1992 response is significantly different from 1988 response (f prob. < .05).

Respondents were asked to agree or disagree with several statements about Vermont tourists. Vermonters' attitudes toward tourists were generally positive for each item. A substantial majority (72.4%) indicated that Vermont tourists were pleasant to deal with and a similar majority (74.4%) disagreed that there were too many tourists visiting Vermont. However, substantial minorities did not agree that Vermont tourists were considerate to the environment (42.0%), and that more tourism would raise the

standard of living in the state (42.1%). Comparison of responses from the 1986, 1988, and 1992 surveys revealed declining agreement with the statement that "Vermont tourists are pleasant to deal with." There was, however, more agreement with the statement that more tourism development would raise the standard of living in Vermont; this increase in agreement was found to be statistically significant from 1988 to 1992 (Table 5).

Table 5. Comparison of perceptions and attitudes about tourism (1986, 1988 & 1992).

Statement	Average ^a		
	1986	1988	1992
Vermont tourists are pleasant to deal with	0.61	0.61	0.50
Vermont tourists are considerate toward the environment	0.08	0.05	0.10
Vermont tourists are considerate toward Vermont residents	0.23	0.25	0.21
More tourism development will raise standard of living in Vermont	0.06	-0.12	0.15 ^b
There are too many tourists in Vermont	-0.54	-0.41	-0.56

a/ Average refers to the mean score derived from the following coding system: Strongly Agree=2; Agree=1; Disagree=-1; Strongly Disagree=-2.

b/ 1992 response is significantly different from 1988 response (f prob. < .05).

Conclusions

The 1992 Vermont Recreation Survey and Environmental Index offers a unique perspective on Vermonters' perceptions regarding recreational issues and the quality of Vermont's environment. In general, Vermonters have given the quality of the state's recreational resources an average grade of a B- and a slightly better average grade of B for the quality of Vermont's environment. Vermont's scenery, as both a recreational and environmental resource, continues to be perceived by Vermonters as the state's highest quality resource—a trend that's been measured since 1986.

The quality of Vermont's water resources, as both recreational and environmental amenities, appears to be an area of concern receiving the lowest grades on the Environmental Index. Comparison of Vermonters' opinions over time indicate that while there was a significant improvement in the perceived quality of rivers and streams between 1990 and 1992, there were no significant changes reported in the perceived quality of drinking water, ground water, and lakes and ponds.

Disposal of solid and toxic wastes, along with the loss of agricultural land, acid rain and the increasing development of Vermont, are perceived to be big environmental problems for the state. While considered to be "problems," availability of outdoor recreation opportunities, air quality, overcrowding of outdoor recreation areas and conflicts between different groups of outdoor

recreationists, were issues rated relatively lower in comparison to other potential environmental problems for the state.

A majority of Vermonters agreed that the state was doing well in the protection of the natural environment; however, they did not agree that future generations would enjoy a better quality environment. Vermonters indicated that they did not believe that the state's environmental laws were too strict and supported the idea that environmental protection and economic progress could go hand in hand.

In the area of recreation-related issues, Vermonters supported, relatively strongly, the concepts of community recreation paths or "greenways" for bicyclists and pedestrians, and the inclusion of adequate road shoulder in the development and improvement of roads and highways to accommodate bicyclists. Vermonters offered varying levels of support for ski industry initiatives—agreement with the development of lighted ski trails for night skiing, and disagreement with the expansion of ski areas and water withdrawal from Vermont's rivers and streams for snow-making.

Overall, Vermonters perceived the effects of visitors and tourists to the state to be positive with the creation of opportunities for jobs, cultural activities, shopping and recreation; however there was concern expressed for the impacts of tourists on traffic conditions, the costs of land and housing, and crime in Vermont.