Since the eruption of Mount St. Helens on May 18, 1980, the rural communities within its shadow have experienced tremendous change. Tourism has become a highly visible and somewhat controversial component of change in the region, and its importance to local economies has increased. As a result of increased tourism development in these small communities conflict and competition for available resources, goods and services has steadily increased. Thus, management agencies and development planners have become increasingly concerned with attitudes and overall receptiveness of host populations toward further tourism development.

Since its eruption Mount St. Helens has attracted millions of tourists to southwest Washington State. County, state and federal governments have spent millions of dollars in developing the region for tourism. The seasonal influx of visitors has a tremendous physical, economic and social impact upon the rural timber communities which neighbor the volcano. Communities which once catered to the needs of hunters, fishermen and other outdoor recreationists, are scrambling to satisfy the demands of tourists seeking to view the devastation.

This research was designed to measure the attitudes and perceptions of those residents living in the rural communities near the Mount St. Helens National Volcanic Monument toward
tourism. Perceptions of the volcanic hazards associated with living near a volcano and the influence of those hazards on tourism were also surveyed. The research utilized informal interviews and a comprehensive questionnaire to develop a body of original data on resident perception of tourism's impact on their community. As the case study areas for this investigation, three communities located along the primary highways entering the monument were selected. Excluding differences in population, these unincorporated communities share similar economies, social attributes and physical characteristics.

Questionnaires were mailed to over 1,000 households within the three communities. A combined response rate of 53% was achieved using the Dillman's Total Design Method (TDM). A variety of statistical techniques, including item analysis, rank score, chi-square and factor analysis, were used to analyze the data. Perhaps the single most important finding from the study was the general prevalence of positive attitudes toward tourism in all three communities. These optimistic attitudes were attributed to the nascent stage of tourism development coinciding with decades of exposure to recreationists and nature seeking tourists. A correlation between the residents' age and their perception of tourism was also identified.

Tolerance levels varied from community to community. Attitudes and perceptions of tourism were most optimistic among the older residents. Cultural exchange between residents and tourists, and other economic rewards were the most predominant tourism benefits identified by respondents. Tourism was blamed for increased congestion on local highways and overcrowding in stores, restaurants and community parks.

Future tourism development appears to be inevitable, and in some instances even desirable within the study communities. Due to the frequency of contact between residents and tourists, tourism planners, managers and public officials need to recognize the perceptions and attitudes of local residents, and incorporate them into regional development plans and management policies if tourism is to be successful.
Tourism and Community Perceptions: An Examination of Mount St. Helens' Tourism as Perceived by Local Residents

by

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# TABLE OF CONTENTS

## CHAPTER I: INTRODUCTION
- Tourism and the Community .................................................. 1
- Tourism and Resident Perception ........................................... 3
- Tourism and Mount St. Helens .............................................. 6
- Purpose of Study ................................................................... 9
- The Study Area ..................................................................... 10
- Significance of Study .......................................................... 13
- Organization of Thesis ....................................................... 15

## CHAPTER II: THE STUDY OF TOURISM
- Tourism and the Uniqueness of Place ..................................... 16
- Tourism and Geography ....................................................... 18
- Tourism and Geographic Research ........................................ 19
  - Regional/Descriptive Analysis ............................................. 21
  - Spatial Interaction ............................................................ 23
  - Impact Analysis ................................................................ 24
- Tourism Studies in Other Academic Disciplines .................... 26
- Summary ............................................................................. 29

## CHAPTER III: RESEARCH DESIGN
- Selecting the Questionnaire Method ....................................... 30
- Developing the Mail Questionnaire ....................................... 32
- The Pilot Questionnaire ....................................................... 35
- Distribution of the Questionnaire ......................................... 38
- Questionnaire Analysis ........................................................ 41
- The Scope of the Questionnaire ............................................ 44

## CHAPTER IV: ANALYSIS OF RESPONDENT DEMOGRAPHICS AND PERCEPTION OF HAZARD
- Respondent Characteristics .................................................. 45
- Demographic Summary ....................................................... 52
- Perceptions of Volcanic Hazard ........................................... 53
- Cross-community Perceptions of Volcanic Events .................. 55
- Volcanic Activity and Tourist Numbers .................................. 60
- Perceived Influence of Specific Volcanic Events on Tourism .... 63
- Summary ............................................................................. 66
CHAPTER V: RESIDENT PERCEPTIONS AND ATTITUDES TOWARD TOURISM

Perceptions of Pre- vs. Post-eruption Tourists  68
Perception of Tourist Numbers  68
Resident Attitudes Toward Tourism  71
Ranking of Tourism Attitudes by Community  73
Cross-Community Comparisons of Tourism Attitudes  76
  Congestion and Overcrowding  80
  Economic and Government Assistance  82
  Community Enhancement  85
  Tourist Behavior  90
Summary  92

CHAPTER VI: SUMMARY AND RECOMMENDATIONS  96

Perceptions of Volcanic Hazards and Tourism  96
Variables Influencing Residents' Perceptions and Attitudes  97
Tourism and the Study Communities  100
  Randle  100
  Toutle  102
  Cougar  104
Recommendations  106

BIBLIOGRAPHY  109

APPENDIX  120
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Mount St. Helens and the Pacific Northwest</td>
<td>11</td>
</tr>
<tr>
<td>1.2</td>
<td>Study area</td>
<td>12</td>
</tr>
<tr>
<td>4.1</td>
<td>Respondents' place of residence on May 18, 1980</td>
<td>47</td>
</tr>
<tr>
<td>4.2</td>
<td>Primary occupations of respondents</td>
<td>49</td>
</tr>
<tr>
<td>4.3</td>
<td>Age distribution of respondents</td>
<td>50</td>
</tr>
<tr>
<td>4.4</td>
<td>Income levels of study population</td>
<td>51</td>
</tr>
<tr>
<td>4.5</td>
<td>Education levels of respondents</td>
<td>52</td>
</tr>
<tr>
<td>4.6</td>
<td>Resident perceptions of volcanic hazards</td>
<td>57</td>
</tr>
<tr>
<td>4.7</td>
<td>Perceived influence of volcanic activity on tourist numbers</td>
<td>61</td>
</tr>
<tr>
<td>4.8</td>
<td>Perceived correlation between tourist numbers and volcanic activity by community</td>
<td>61</td>
</tr>
<tr>
<td>4.9</td>
<td>Perceived influence of volcanic activity on tourist numbers by resident's occupation</td>
<td>62</td>
</tr>
<tr>
<td>4.10</td>
<td>Tourism activity and volcanic events as perceived by residents</td>
<td>64</td>
</tr>
<tr>
<td>5.1</td>
<td>Percentage of respondents believing post-eruption tourists differ from pre-eruption tourists</td>
<td>69</td>
</tr>
<tr>
<td>5.2</td>
<td>Annual monument visitors as perceived by residents</td>
<td>72</td>
</tr>
<tr>
<td>5.3</td>
<td>ANOVA results</td>
<td>82</td>
</tr>
<tr>
<td>5.4</td>
<td>Cross-community variance within the &quot;congestion and overcrowding&quot; cluster</td>
<td>83</td>
</tr>
<tr>
<td>5.5</td>
<td>Cross-community variance within the &quot;economic and government assistance&quot; cluster</td>
<td>86</td>
</tr>
<tr>
<td>5.6</td>
<td>Cross-community variance within the &quot;community enhancement&quot; cluster</td>
<td>90</td>
</tr>
<tr>
<td>5.7</td>
<td>Cross-community variance within the &quot;tourist behavior&quot; cluster</td>
<td>93</td>
</tr>
</tbody>
</table>
### LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Measurement scales and the classification of questionnaire items</td>
<td>43</td>
</tr>
<tr>
<td>5.1</td>
<td>Outcome of content analysis of resident response to differences between pre- and post-eruption visitors</td>
<td>71</td>
</tr>
<tr>
<td>5.2</td>
<td>Mean and percentage agreement with tourism statements</td>
<td>74</td>
</tr>
<tr>
<td>5.3</td>
<td>Five highest ranking items (negative attitudes) by community</td>
<td>77</td>
</tr>
<tr>
<td>5.4</td>
<td>Five lowest ranking items (positive attitudes) by community</td>
<td>78</td>
</tr>
<tr>
<td>5.5</td>
<td>Factor analysis clusters</td>
<td>81</td>
</tr>
</tbody>
</table>
Tourism and Community Perceptions:
An Examination of Mount St. Helens' Tourism as Perceived by Local Residents

CHAPTER I

INTRODUCTION

Since the eruption of Mount St. Helens on May 18, 1980, the rural communities within its shadow have experienced tremendous change. Not only was the physical landscape altered, but the economic and social structures within these small communities also underwent significant adjustments. Much attention has turned from more traditionally based economic activities, such as the timber industry, to an ever expanding service oriented industry, primarily tourism. The tourism industry has become a highly visible and controversial component of the local economies and human landscapes within the region. Tourism is particularly alluring because of the potential benefits it can bring to rural communities, i.e., new employment opportunities, economic diversity, expansion of the local tax base, and improvements in the local infrastructure and service facilities. However, it is generally the local residents who bear the burden of supporting tourism development. Therefore it is imperative that tourism managers and developers recognize the attitudes and perceptions of host populations if maximum benefits for both the tourist and the resident are to be attained.

Tourism and the Community

Although tourism may provide rural communities with a broader range of economic and social opportunities than the traditional resource based activities do, there are some less appealing by-products that are not fully realized prior to development. Some tourism
promoters in their attempt to optimize economic benefits, ignore the possible tourism impacts upon the physical landscape, and especially the socio-cultural environment. A comprehensive literature survey by Kendall and Var (1984) identified numerous studies addressing resident perception and attitudes toward the impacts of tourism. Negative impacts, such as increased litter, overcrowding (both from a physical and social perspective), noise, inflation, decay in traditional family structures, negative competition between residents and tourists, increased prostitution, cultural decay and assimilation, and the invasion of privacy are a few of the more predominant issues identified in their survey.

Not all tourism impacts are perceived in a negative light. Positive impacts include improved public facilities, increased employment, cultural preservation, reversed outmigration, meeting new people, increased revenues and income, greater variety and improved quality of recreational facilities, and increased construction of parks and attractions. It should be noted that tourism impacts, whether perceived or real, are relative and strongly dependent upon complex social/cultural factors. Even though rural communities may share similar economies, landscapes, or histories, they may be dissimilar in ethnos and attitude. Therefore one could expect neighboring communities which depend upon the same tourism attraction to be very different in regards to their community perceptions of tourism.

Increased tourism activity may bring more revenue into the community, yet it may also result in unexpected changes in traditional lifestyles. How residents perceive the potential benefits vs. the total costs is critical to the success of tourism. Since each community is diverse in its economic, social, cultural and geographic composition, it is likely that each will respond in a different manner to tourism induced changes. In some instances perceived changes generate conflict (Pi-Sunyer, 1977, deKadt, 1979), while other communities have inverse reactions—an increased sense of hospitality and interaction between residents and tourists (Duffield and Long, 1981; Liu and Var, 1984). How residents perceive tourism greatly influences the success of the tourism industry in their community.
Therefore, it is imperative that resident attitudes and perceptions be evaluated and considered in the planning process to ensure the success of tourism development and promotional efforts.

Tourism and Resident Perception

Tourists are rarely the first outsiders to penetrate host cultures. Usually they are preceded by other non-tourist groups, such as missionaries, conquerors, trappers, scientists, government administrators or other private and public organizations. Human perceptions are the product of a "process whereby an individual receives information from the social and physical environments in which [the individual] operates, interprets it in the light of [personal] experience and attitudes, and then reacts." (Lime & Stankey, in Anderson, 1974, p.2). The experiences and interactions which arose between the host and these initial groups condition the host perceptions and attitudes toward future tourists.

Over the past two decades research interest in the perceptions of tourist area residents toward tourism and its associated impacts have increased. (Allen, Long, Perdue & Kieselbach, 1988; Ap, 1990, 1992; Belisle & Hoy, 1980; Brougham and Butler, 1981; Davis, Allen and Cosenza, 1988; Kendall & Var, 1984; Liu, Sheldon & Var, 1987; Liu & Var, 1984, 1986; Milman & Pizam, 1988; Murphy, 1983; Pearce, 1980; Perdue, Long & Allen, 1987, 1990; Pizam, 1978; Ritchie and Lyons, 1987; Rothman, 1978; Ross, 1992; Sethna & Richmond, 1978; Sheldon & Var, 1984; Thomason, Crompton and Kamp, 1979; Um & Crompton, 1987; Var, Kendall & Tarakcioglu, 1979) These studies have identified various factors which influence resident perception of tourism. These factors include the seasonality of the industry, spatial distance from the tourist zone, community attachment, economic dependency, and the degree of development.

The attractiveness of many tourist destinations is often dependent upon climatic conditions associated with specific seasons of the year. If a destination experiences distinct
seasonal changes in climate, then the tourism attractiveness of the region will most likely change as well. What generally results is a period or season of intense tourism activity followed by a season of inactivity. This cyclical process is referred to as the seasonality of tourism. Seasonality often leads to increased friction between residents and tourists, producing a negative opinion among residents. During the peak tourist season local facilities and infrastructure may be stretched beyond capacity, forcing residents to endure increased overcrowding, noise and traffic congestion not experienced during the "off" season. As the number of tourists exceeds the resident population, residents may become less tolerant of tourists and the desirability for further tourism development decreases, while negative perceptions increase. (Duffield and Long, 1981; Perdue, et. al., 1987) The slow periods during the off season may also cause inconveniences for residents who find themselves earning marginal returns, or are unemployed for several months out of the year.

Spatial distance and community attachment also influence resident perception. In general, the more attached residents are to the community in terms of birthplace, heritage and years of residency, the less positively they perceive the tourism induced changes on their community. (Sheldon and Var, 1984; Um and Compton, 1987). Lifelong residents tend to be more sensitive to the lifestyle changes and impacts brought on by tourism in comparison to residents who have moved into the area. Also, it has been found that the distance a resident lives from the tourist zone influences perceptions of both short and long term residents. When the primary tourism zones are located in sectors not often frequented by residents, perceptions tend to be more positive and accepting of tourism. (Belisle and Hoy, 1980; Pearce, 1980; Sheldon and Var, 1984) Conversely, when residents no longer frequent the area because of tourist infiltration, or if residents are unable to go about their daily activities without being inconvenienced by tourists, negative perceptions result.

A correlation between economic dependency and resident support for tourism is evident. Economic dependency is significant since the associated costs and benefits of tourism are not perceived to accrue equally to all residents of the community. (Brougham &
Butler, 1981) Rather, tourism provides numerous benefits to specific individuals or sectors of the community, thus influencing some residents to enthusiastically embrace tourism, while others equally resist it. The degree to which residents are dependent upon tourism for sustaining their livelihood is reflected in their perception of tourism growth and development: the more dependent on tourist dollars the more positive the attitude towards tourism (Butler, 1979; Liu, et. al., 1986; Pizam, 1978; Thomason, et al., 1979). Residents who frequently associate with tourists tend to be more inclined to view tourism induced changes in a favorable light.

Community perception of tourism is also influenced by the kind and degree of tourism development (Ahmed, 1986; Butler, 1979; Getz, 1983; Kariel, 1989). Large scale commercial development may be enticing economically, but the social and physical costs might be totally unacceptable. Antagonism between tourists and locals is common to many destination areas, occurring primarily as result of rapid increases in the tourist population and increased competition for available resources (Cohen, 1984). According to deKadt (1979) the social interests of host communities are often better served by small scale, widely dispersed tourism facilities, rather than by developments made at a larger scale. This "soft" approach to tourism stresses small scale development vs. large scale hotels and facilities, and is often more appropriate for small, isolated regions or culturally sensitive communities.

Increasing awareness of global environmental ills, combined with the growing social tensions triggered by "mass tourism" development, has given rise to "alternative" forms of tourism. (Krippendorf, 1987; Lea, 1988) Alternative tourism, "broadly defined as forms of tourism that are consistent with natural, social and community values" (Eadington & Smith, 1992: 3), emphasizes the protection of the physical environment, as well as maintaining the ethnic and cultural integrity of the destination area. Because of the low key nature of this approach, tourism activity tends to be less lucrative and less destructive than the type of development characteristic of full scale, "mass tourism". However, the
problems and potential costs of this form of tourism have largely been ignored and may be as detrimental to rural communities as those resulting from "mass tourism" activity.

Host communities respond differently to various types and degrees of tourism development and activity. A general model of the evolution of host perceptions and attitudes was proposed by Doxey (1976). His four stage model begins with euphoric perceptions of tourists, which eventually digresses towards apathy. Over time residents become annoyed by the behavior and presence of the tourists, until it is overcome by antagonistic attitudes of the hosts toward the tourists. Studies have been conducted in an attempt to identify just what factors positively, and/or negatively influence the perceptions of local residents. For tourism planners and managers these studies are significant in that they reveal the value and role of local opinions and attitudes in the successful development of existing and future tourism projects.

Tourism and Mount St. Helens

The tourist season was just about to begin when Mount St. Helens erupted on the morning of May 18, 1980. The region had been a popular destination area for hunters, campers and other outdoor recreationists for decades. In 1911 the Portland, Oregon YMCA received a special use permit to develop a camp along the southern shore of Spirit Lake. Other camps and lodges appeared soon after along the pristine shoreline. An auto stage running from Castle Rock to Spirit Lake was initiated in 1917 to carry the general public to the cooler venues of Mount St. Helens and Spirit Lake during the summer season (Ott and York, 1983). By the early 1920's Mount St. Helens had become a recreational playground primarily for the inhabitants of the Pacific Northwest. Public and private forests, campgrounds, lodges, lakes, and reservoirs attracted thousands of recreationists to Spirit Lake and neighboring reservoirs to fish, water ski, sail, or just absorb the natural beauty of the area. In September of 1979 the U.S. Forest Service announced plans for the development
of a seven million dollar recreational complex to cater to the needs of the growing tourist population (USDA, 1981; Ott and York, 1983). A few months later the plan was scrapped when Mount St. Helens rose from relative obscurity to become a world famous volcano.

The extensive media coverage that began months before the May 18th eruption brought increased notoriety to an area whose primary claims to international fame were limited to Sasquatch\(^1\) and D.B. Cooper\(^2\). The general public watched the devastation unfold from the comfort of their own living rooms. In reaction to the sensational media coverage, many people believed the region to be unsafe for travel, or so decimated that there was nothing left to see. Many of the small businesses in the rural communities near the mountain were heavily dependent upon revenues generated by the summer tourism/recreation activity (Kreck, 1981). Tourism dropped by 30% that summer following the eruption (Murphy and Bayley, 1984), and business remained lethargic the following year as perceptions of danger and unpredictability persisted among the traveling public (Murphy, 1985). However, as information increased tourist apprehension slowly disappeared. Efforts made by state and county governments to assure the public of the region's safety gradually soothed any apprehensions. A regional development plan presented by the state in 1983 focused on the exploitation of the mountain and devastated areas as a tourism resource (Washington State Department of Commerce and Economic Development, 1983). As a result, what was once considered by some as being a devastated wasteland became a major tourist attraction, transforming the region from a backyard playground for residents of the Pacific Northwest into a natural museum for the world.

Tourists from across the United States traveled to the Pacific Northwest to personally witness the devastating effects they had seen on television. Increases in the number of

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\(^1\)A large, bipedal, wild primate believed to roam the forests of the Pacific Northwest and British Columbia. Numerous "Bigfoot" sightings have been recorded in the vicinity of Mount St. Helens.

\(^2\)Hijacked a Northwest Airlines 727 jetliner flying from Portland, Or. to Seattle, Wa. on November 14, 1971. He later parachuted from the plane into the forests near Mount St. Helens with $200,000 in ransom money, never to be seen again.
foreign tourists has also occurred. It is no longer uncommon to meet people from foreign
lands, primarily Canada, Europe and Japan, at local restaurants, bars, grocery stores, or
even at the Post Office. The area has evolved from a quiet, relatively unknown retreat for
regional visitors to an internationally renowned attraction for tourists from around the
world.

Since its designation in 1982, millions of tourists have visited the Mount St. Helens
National Volcanic Monument and surrounding region. The U.S. Forest Service, which
manages the monument, estimates that nearly 2 million people, primarily from North
America, Europe and Japan, visited the region in 1991. These numbers are expected to
double with the completion of the Spirit Lake Memorial Highway and a new multi-
million dollar observatory and visitor service center located at the highway's terminus
five miles north of the volcano's crater at Coldwater Lake. Two interpretive centers
sponsored by local government and private enterprise are currently under construction along
the highway. These interpretive centers will further increase the tourist attractiveness of
the highway and surrounding area. If the local communities expect to benefit from the
projected increase in tourism, they must be willing to make a significant commitment to
improve the existing community infrastructure. As improvements are made to highways
and parks, and new information centers, restrooms and other public facilities are
constructed, the community becomes more attractive to tourists and tourism related
industries, as well as to other non-tourism industries as well. It is not uncommon for business
owners or entrepreneurs to establish businesses in communities they once visited as tourists.
(Allen et al., 1988) The possibility of attracting other commercial developments through
tourism promotion further entices rural communities to develop their tourism industries.
Purpose of Study

The purpose of this study is to develop and analyze a body of original data on residents' perception of tourism and their attitudes toward the degree and kind of tourism development that currently exists, and may someday exist in their communities. Based upon the analysis of primary data, an effort was made to draw specific conclusions which would aid in understanding the incompatibilities and tensions of local residents and their influence on tourism development in the region of Mount St. Helens. This study does not consider the impacts that may occur within the national monument, but rather seeks to identify those impacts manifested in the communities beyond the monument boundaries. By understanding how tourism development is perceived by residents, public managers and planners can formulate techniques and implement tourism plans that will appeal to both residents and tourists.

Information was collected through personal interviews, both formal and informal, and a survey questionnaire created specifically for this project. Questions regarding attitudes and perceptions of residents were asked using a 5 point Likert scale, and covered perceptions of the physical, social and economic impacts of tourism, as well as the respondents' perceptions of hazard associated with living near an active volcano. The major objectives were:

1) analyze how residents perceive tourism and its impact upon themselves and their community;
2) determine those factors which most influence resident perceptions toward tourism;
3) compare communal receptibility to tourism development between neighboring communities; and
4) propose recommendations that would aid tourism planners in solving identified problems and conflicts.
The Study Area

Three rural communities in southwest Washington State were selected for this study. Each of these communities witnessed intense tourist activity associated with the Mount St. Helens National Volcanic Monument. The communities were: 1) Randle, located at the northern gateway to Mount St. Helens; 2) Toutle, situated 28 miles to the west of the volcano near the confluence of the North and South Forks of the Toutle River, is the gateway to the Spirit Lake Memorial Highway and the new visitor center at Coldwater Lake; and 3) Cougar, nestled in the valley of the Lewis River 11.5 miles to the southwest of Mount St. Helens along State Highway 503. These "gateway" communities are each located along one of three highways that access the national monument and popular viewpoints from the I-5 corridor, the primary transportation artery of the Pacific Northwest. The three communities are situated such that each experiences a different degree of tourist activity. A map of the region and the location of the three study communities in relation to Mount St. Helens and each other are presented in Figures 1.1 and 1.2.

The community of Randle is located along the primary route to what has been the most popular vistas of the volcano. Windy Ridge provides the closest access to the volcano's crater by automobile and attracts thousands of tourists daily. During the summer tourist season monument employees at Windy Ridge dramatically recount the events of May 18 to the continuous flow of curious tourists. A small cafeteria/deli and gift shop are also located near Windy Ridge. Randle is also conveniently located at the crossroads for tourists traveling from other popular attractions in the region, particularly Mt. Rainier and Mt. Adams.
Figure 1.1. Mount St. Helens and the Pacific Northwest.
Figure 1.2. Study area.
Toutle's access to the mountain and Spirit Lake was destroyed by the eruption. The highway and bridges were washed away and the popular campgrounds and lodges found along the North Fork of the Toutle River and at Spirit Lake were obliterated. For more than a decade attractions which once brought tourists through Toutle became nonexistent after the eruption. However, with the completion of the Spirit Lake Memorial Highway and construction of two new visitor information centers at the terminus of the highway the tourism attractiveness of the area will likely improve.

Cougar has traditionally received those tourists interested in activities associated with the large reservoirs and private cabin communities located nearby. The popularity of this area has increased as outdoor recreationists, displaced by the destruction of Spirit Lake and other lodging/recreation areas, have found similar accommodations on the south side of the volcano. With the trailhead to the rim of Mount St. Helens located nearby, Cougar also caters to the needs of people ascending the volcano.

It is expected that over the coming decade a significant shift in tourist activity resulting from changes in the existing highway infrastructure, as well as changing economic conditions, will once again bring changes to these communities. Since each community experiences different kinds and degrees of tourist activity, different perceptions and attitudes were expected from them.

Significance of Study

It is evident from the literature that resident attitudes and perceptions of tourism vary, and are dependent upon several socio-economic factors. The relatively nascent stage of tourism development in the Mount St. Helens region provides an excellent opportunity to examine the evolution of resident attitudes and perceptions as tourism activity increases. Since most tourism impact studies have been conducted decades after development, the communities near Mount St. Helens provide a rare opportunity to evaluate the tourism
cycle, to gain a better understanding of the economic and social processes that occur with
development, and to document how resident perceptions and attitudes reflect the intensity
of tourism activity occurring in the region. It is important that resident perceptions be
identified and periodically assessed if the benefits accrued from tourism are to exceed the
associated costs.

It is important that resident perceptions be understood in order to better understand
why conflicts between tourists, tourism developers and residents begin to appear as the
industry matures. Conflicts between residents and development will occur when social
and/or physical costs are perceived to exceed the economic benefits. In order to better
understand why conflicts occur, it is desirable to know how residents feel toward tourism
and its influence on their community, as well as its affect upon their personal behavior and
lifestyle. By identifying resident perceptions one can create a community profile of
satisfaction with tourism at a given point in time. Efforts to promote tourism receive little
community support when residents perceive greater negative than positive results from
development. Opposition to tourism development increases when unforeseen, or unplanned
impacts are left uncontrolled. Understanding how residents perceive tourism induced
impacts is a powerful planning tool in that it aids tourism planners and managers in
recognizing, as well as predicting, the effects of future development upon host communities.

Tourism managers and public officials must recognize the influence of tourism upon
local lifestyles and establish comprehensive efforts to ensure maintenance of public
facilities, preservation of the physical environment and allow public
involvement/participation in the planning process of tourism planning. Resident
perception of tourism activity and associated impacts must be evaluated if a thorough
comprehension of the local tourism potential or receptibility is to be realized. Contrasting
resident perceptions with development plans becomes useful in evaluating how activities
are perceived by residents, identifying areas of conflict between residents and tourists, and
in forecasting the receptiveness of residents to future tourism policies, plans and development.

**Organization of Thesis**

The thesis is organized into six chapters. Chapter I identifies the purpose of the investigation and provides background for understanding the nature of tourism impact studies and community perceptions. Chapter II reviews the nature of tourism and its relevance to the field of Geography and other academic disciplines. Chapter III details the research design and the methods used in gathering data on the resident perceptions and attitudes toward tourism within the three study communities. Chapter IV follows with the results of the questionnaire, providing a general overview of respondent demographics and hazard perception. Resident perception of the relationship between specific volcanic events and tourism are also presented in this chapter. The fifth chapter examines and analyzes the data cross-communally, identifying those factors which have the greatest influence upon community perceptions. Conclusions and recommendations for action are the basis for the sixth and final chapter.
CHAPTER II

THE STUDY OF TOURISM

Tourism is a phenomenon which receives the attention of many academic disciplines and research fields. Anthropology, recreation, economics, business, sociology, resource management, ecology, political science, and even the medical sciences have examined specific aspects of tourism activity and development. Resource use, cultural adjustments, social change, infrastructure development, land use, product marketing, community development and employment are only a few of the issues associated with the development of tourism. To understand the role and impact of tourism upon destination communities requires an appreciation of the differences and uniqueness of each place, and the myriad of factors which make up the character of the destination. Few disciplines are as specialized for the analysis of the uniqueness and character of place as the discipline of geography.

Tourism and the Uniqueness of Place

Geography's comparative advantage over other disciplines and sciences in examining tourism lies in its focus on places, regions and the interconnections and relationships that exist between the places and regions of the world (Abler, 1987). Geography is a science that deals with the earth and the life upon it, specifically focused upon the uniqueness of place, and the spatial relationships between the diverse elements within the earth's environment and their distribution across space. Tourism geography concentrates on the identification, description, analysis and interpretation of the spatial interactions between tourism and the host environment; it is concerned with movement and the distribution patterns created by that movement (Matley, 1976; Mitchell et. al, 1989;
Rafferty, 1993). Geography synthesizes knowledge of the economic, physical and socio-cultural elements characteristic to place, and presents this information collectively, rather than in parts or sectors. Elements of space, distance, size, direction, seasonal variations, human migration flows and patterns, regional characteristics and their spatial arrangement and attractiveness, which create the uniqueness of place, are the foci of geography and are of particular significance to tourism. "Most people are curious about the world they live in, and they are intrigued by the unique character of potential places" (Hart, 1981:20). The role of geography is to analyze those elements and characteristics that make individual places different, unique from other locations around the globe.

Uniqueness results from a combination of natural elements such as, climate, topography and other natural resources with human characteristics, which may include language, economics, architecture, religion, and other cultural features. It is the uniqueness of place, the combination of natural features with the human environment, that intrigues and motivates people to become tourists, and thusly, instigates the growth and development of tourism.

Tourism affects the uniqueness of place in that it promotes change. Tourists are attracted to places because of their uniqueness; these places are different from their own. However, although they seek to experience different places, tourists bring with them personal wants and demands for resources and services which may not be characteristic of the host community. In an attempt to cater to these visitors, the host community may begin to allocate resources to better meet the demands of the tourists. The invasion of large numbers of people from other places for a short period of time affects the host community, changing its uniqueness, creating a new cultural, political, economic and physical landscape (Hudman and Jackson, 1990). Tourism induced changes in the uniqueness of place are of particular interest to the geographer, and there are few branches of the discipline which do not make some kind of contribution to further understand tourism phenomena.
Tourism and Geography

Most aspects of tourism phenomena have geographical implications. The condition and manipulation of the natural landscape, exploitation of valuable resources and the impact upon vegetation and wildlife populations as a result of tourism development are of interest to physical geographers. Economic geographers contribute in their modeling of transportation, human migration, either as tourists or as seasonal workers, as well as identifying the location of tourist facilities and the economic contribution of tourism to host economies. The cultural and historical features which attract tourism development have lured cultural geographers to the study of tourism. Cultural geographers have also studied the impacts and changes experienced by host communities as new ideas and behaviors are introduced by tourists.

The resource geographer is in a position to make a distinct and significant contribution to the study of tourism. Tourism is in essence a form of land use. It requires the allocation and consumption of many scarce resources, such as land, water, energy, economic and human resources, which are already in demand for agriculture, mining, commercial development, housing, environmental preservation, and other consumer activities. (Mathieson and Wall, 1982). The fundamental uniqueness of many tourist attractions lies in its natural resource base. Natural resources, eg., beaches, lakes, mountains, coastlines, thermal springs, rivers, wilderness, and even clean air, form the core of tourist development. Without these resources, the uniqueness of the destination would not exist from a tourist perspective. In some cases rapid, large scale development of tourism facilities combined with mass migrations of tourists have resulted in the degradation of the natural environment. Although tourism can contribute to resource degradation, it also has the potential to significantly enhance the natural environment (Pigram, 1992). Because tourism can be heavily dependent upon the attractiveness of natural resources, great steps toward the conservation of these resources have been taken to protect them from degradation and destruction. The resource geographer plays a key role in analyzing the
relationship between tourism and resources, and to assist in the management of those resources for tourist use.

**Tourism and Geographic Research**

Despite the symbiotic nature of tourism and geography, tourism research was relatively non-existent until the late 20th century. The ambiguous relationship between tourism and geography prior to the 1950's was one of coexistence with "tourism receiving a few crumbs from geography, but no real assistance in solving important scientific, planning or managerial problems" (Mieczkowski, 1978:88). There are some theories as to why tourism had been overlooked by geographers, and by social scientists in general. The relative newness of the field, coupled with individual preference in traditional themes of research were some of the most significant reasons for lack of interest (Britton, 1979). The heterogeneous and multifaceted nature of tourism compounded by the absence of dependable, quantifiable data was another deterrent (Deasy and Griess, 1966). Willibald Pahr, Secretary General of the World Tourism Organization, labeled tourism's lethargic acceptance into academia as the "quiet revolution" because many perceived tourism research as a study of habits, tastes, and individual satisfaction, rather than on scientific or technological achievements (in Hudman and Hawkins, 1989). Regardless of the apparent conceptual obstacles, tourism geography has slowly gained acceptance among geographers and geographic research organizations.

Tourism geography first appeared as a defined research field in the early 1950's. Prior to that date, only a handful of tourism related papers were scattered throughout a variety of disciplines and journals (Olgilvie, 1933; McMurray, 1930; Deasy et. al., 1949). The general thrust of early 20th century American writings led to tourism's classification as a branch of economic geography. (Pearce, 1979) The placement of tourism geography under the umbrella of economic geography was also popular among the international geographic
community (Christaller, 1955; Matley, 1976). The first known refereed article in a U.S. geographic publication that addressed tourism as a significant geographic theme appeared in the Annals of the Association of American Geographers in 1930 (Mitchell et. al., 1988). Since that time the number and range of articles has slowly increased, and research has extended beyond the bounds of economic geography to include virtually every geographic specialty. It wasn't until the late 1960's and 1970's that recreation geography, which includes tourism geography, was recognized as a subgroup within the discipline of geography.


The increase in tourism's popularity as a research topic among geographers is also evident from an examination of the studies presented at geographic conferences. From 1962 to 1982, over 36% of the papers presented at the annual Association of American Geographers meetings dealt with tourism issues, and when papers were classified by topic, tourism ranked second in the number of papers presented (Mitchell and Smith, 1988). From a general perspective, tourism geography has historically concentrated on four basic research themes. These themes are: regional/descriptive studies, spatial analysis, impact analysis, and overviews of the geography of tourism.
Regional/Descriptive Analysis

One of the most common themes found in tourism geography is the areal or regional analyses of tourism. Tourism geographers have examined regions, nations, states, and communities in an effort to better understand the nature of tourism as an industry, as well as its relationship with the specific geographic characteristics of the region. One of the earliest tourism publications was written by a German geographer, Hans Poser, in 1939. Poser examined the spatial distribution of five forms of tourist activity, their history, and the size of the population involved in each activity within the Riesenberge region of Germany (Matley, 1976). More than forty years after Poser’s original study, geographic interest in tourism from a regional perspective has continued.

Some countries and regions of the world have been more popular areas of study than others. Since the development of tourism geography initially began in the Europe, those areas within the European community logically dominate the literature. One of the most popular areas of study continues to be the countries surrounding the Mediterranean Sea. Geographers have evaluated the tourism development in Algeria (Blake and Lawless, 1972), Cyprus (Gilmoor, 1989), Malta (Lockhart and Ashton, 1987), Sicily (Campagnoli, 1979), Spain (Naylon, 1967; Morris and Dickson, 1987) and France (Tappen, 1988). Even the traditionally anti-tourist country of Albania has been examined by a tourism geographer (Hall, 1984). Other European countries generating tourism geography research include Great Britain (Coker, 1950; Duffield and Long, 1981; Butler, 1985; Page and Fidgeon, 1988; Squire, 1988; Essex and Gibb, 1989), Germany (Romansa, 1981), Austria (Jülg, 1978), Czechoslovakia (Pepeonik, 1979) and Bulgaria (Dinev, 1978).

As the subfield matured and interests began to expand beyond its European core, geographic interest in other regions of the world began to increase. Of all the nations in the Western Hemisphere, Canada has received the most attention from geographers studying
tourism phenomena. (Bailie, 1971; Murphy, 1979, 1980; Cheng, 1980; Seymoor, 1980; Keogh, 1982; Wall, et. al., 1985; Smith, 1987)

Regional analysis of tourism has not been limited to Europe and the Western Hemisphere. Tourism in Africa has been studied from national levels (Ferrario, 1986; Jackson, 1973; Teye, 1986; Zinyama, 1988) to larger sub-regions of the continent (Ouma, 1970; Hyma, et. al., 1980). Due to Africa's virtually untapped potential as a tourist destination, the majority of these studies have focused on the future of the tourism industry within these sub-regions and nations. Geographers have studied the influence of tourism on such countries as Malaysia (Din, 1982), Japan (May, 1985), Thailand (Wahnshafft, 1982) and Australia (Bearington, 1971). In his study, Bearington examined how the growing number of tourists traveling to see Ayers Rock has affected the lifestyles of the aboriginal population, as well as, the anglo community of Alice Springs.

Another focus of research interest has been the development of tourism in island communities. Islands are of particular interest to tourism and resource geographers since these communities have few resources to exploit in order to sustain their economies, so they often choose tourism as a primary generator of foreign exchange and subsequently they often become overly dependent on it for economic subsistence. Island nations and communities of such places as Tahiti (Beed, 1961), Hawaii (Liu and Var, 1986), Easter Island (Porteous, 1980), Barbados (Potter, 1983), Margarita (Monk and Alexander, 1986), Isle of Man (Cooper and Jackson, 1985; Cooper and Jackson, 1989) and the Balearic Islands (Pacione, 1977; Barke and France, 1988) have been studied by tourism geographers. Wilkinson (1989) designed a number of strategies to guide island microstates in maximizing tourism benefits, while simultaneously minimizing the economic, environmental and socio-cultural costs associated with tourism.
Spatial Interaction

Spatial interaction is the second most common theme identified in the tourism geography literature. "Tourism involves travel, therefore its spatial interactions are very important to geography" (Mitchell and Murphy, 1991:63). Spatial interaction studies the movement and distribution of tourism facilities and activities over space. Research has included studies from international movements and individual vacation patterns to the location of tourism associated industries and preferred modes of transportation.

The movement and flow patterns of tourists was one of the earliest topics addressed by geographers. Much of the research has been site specific. Taaffe (1959) monitored the growth in airline passenger traffic between Florida and manufacturing belt centers like Chicago, and identified variation from traditional recreational travel habits. Gurgel (1976) analyzed the seasonal flow pattern of Canadians to what he termed the "Mormon culture hearth" in up state New York, while Zinyama (1988) concluded that the changes in tourist flows to Zimbabwe were a direct reflection of the changing political conditions both within the country itself, as well as, in the wider region of southern Africa.

The study of tourist movement in destination areas is the subject of research conducted by Keogh (1984), Murphy and Rosenblood (1974) and Romansa and Blenman (1989). These authors found that the motivations and modus operandi of visitors is greatly influenced by such factors as age, mode of transportation, vacation habits, and other environmental forces. Other geographers have elected to examine types of interaction from the origin and flow of international tourists (Hudman, 1979; Williams and Zelinsky, 1970) to the incorporation of the automobile as a tourism vehicle (Hughill, 1985; Jackle, 1981).

The distribution of tourism facilities and activity were studied by geographers as early as the 1960's, when Christaller outlined the evolution of tourist resort communities in Europe (Butler, 1981; Hovinen, 1981). Christaller's model begins with a cluster of artists seeking out untouched and unusual places to develop their art. They are subsequently joined
by other artists and pseudo artists, like "cinema people" and gourmets. Soon the place
becomes fashionable and attracts the attention of the wealthy and tourism entrepreneurs.
Fishermen cottages and shelter huts are converted into boarding houses and hotels to
accommodate the growing numbers of visitors. As tourism development continues, the
artists become disenchanted with the area and move on to other "forgotten places" and
landscapes. Those artists who remain behind take advantage of the character of the area,
capitalizing on the good name of the former "artists' corner" and on the gullibility of the
tourists that arrive there. At last "mass tourism" with its package tours, garish hotels,
climatized buses and bellowing tour guides appear on the scene, while most of those who
originally sought the character and atmosphere of the village have moved away to other
"untouched and unusual places" where the cycle will continue.

Impact Analysis

Analysis of the physical, economic and socio-cultural impacts resulting from
tourism activity is a third theme in tourism geography research. Tourism is often referred
to as a "smokeless industry", implying that the negative side effects from tourism are
relatively invisible at least in the short term; if an adequate resource base is maintained,
the industry could prosper for an indefinite period of time. It was the publication of Turner
and Ash's book, The Golden Hordes in 1975, that opened the eyes of tourism researchers to
the effects of uncontrolled, economically focused tourism developments and the impact it
had on the environment and socio-cultural values and traditions of a community over a
short period of time.

Now geographers are analyzing how the tourism industry changes traditional
social and economic structures of a population, as well as, its affect upon the natural
environment and landscape. In some cases the study area is so large that geographers have
focused on more specific areas of impact. Keogh (1982) looked at the social implications of
tourism development in the resort community of Shediac, located along the eastern shore of New Brunswick, and discovered that the main reason why a positive relationship existed between residents and tourists could be ascribed to the fact that the socio-cultural needs of the local community had been incorporated into local tourism policies and planning. Mathieson and Wall (1982) reviewed the physical, socio-cultural and economic impacts associated with tourism. Although their list of impacts is far from complete, it allows planners, policymakers and tourism researchers to grasp a clearer picture of the powerful influence and potential forces associated with tourism development.

Impacts research has jumped from one extreme to another. Mieczkowski (1981:90) complains that the "tourism literature has swung from ignoring the extreme costs of tourism and extolling its benefits to another extreme, that of excessive criticism". What geographers must do is bring the literature more to center, through the development of conceptual designs and frameworks that lead to balanced development; frameworks designed to minimize costs without greatly reducing the benefits associated with tourism development.

Tourism geography is a relatively young field of study when compared to the more traditional geographic fields. Although tourism's place in geography remains somewhat obscure from a conceptual perspective, it is unlikely that interest in tourism research will fade or disappear. The fact is, demand for tourism research will probably increase as improved technology and social reforms lead to increases in leisure time. Because of its economic potential, more of the world's poorer or indebted nations are turning to tourism for increased foreign exchange. Even in the United States, tourism is a major contributor to both national and state economies; it is the number one generator of income in 38 of the 50 U.S. states (Mitchell and Smith, 1985:13) This suggests a bright future for geographic analyses of tourism phenomena.
Tourism Studies in Other Academic Disciplines

As was mentioned at the beginning of this chapter there are several academic disciplines in which tourism studies can be found: geography does not have a monopoly on tourism research. Anthropologists, sociologists, economists, political and other social scientists, have examined tourism phenomena through the theories, models and conceptual frameworks of their individual disciplines. Similar to its evolution in geography, interest in tourism has developed slowly, but today tourism studies are well-established in numerous social science disciplines.

Tourism studies have experienced increasing prominence in the disciplines of anthropology and sociology (Cohen, 1984; Crick, 1989; Dann and Cohen, 1991; Graburn, 1983; Johnston, 1990; Nash & Smith, 1991; Smith, 1980). Although they differ conceptually, sociologists and anthropologists are concerned with phenomena related to humans, therefore it is only logical that these disciplines would demonstrate interest in a phenomenon as uniquely human as tourism. Since the mid-1970's the field has grown rapidly with increasing interest in various aspects of tourism (Cohen, 1984). The impact of tourism upon the socio-economic elements of host communities, such as employment, income, foreign exchange, commodity costs and ownership, has received considerable attention. However, the socio-cultural effects have generated the greatest interest among anthropologists and sociologists. Changes in local customs, the arts and social composition and behavior are some of the most visible human impacts attributed to tourism. A landmark publication in the tourism literature, Hosts and Guests: The Anthropology of Tourism, edited by Valene Smith (1977), is a compilation of anthropological analyses on the influences of tourism, and the acculturation which occurs with tourist-host interactions. The initial studies portrayed the tourist, either directly or indirectly, as a "dark emissary" of cultural change. Over the decades this perspective has softened. Several of the initial contributors to Smith's tome who lamented the negative effects, reassessed their
findings ten years later and recognized the constructive impact these changes have had upon the host cultures (Smith, 1989).

Anthropological and sociological studies of tourism have not been restricted to impacts analyses. Other preoccupations with tourist-resident interactions, system analyses and tourist motivations and behavior are prevalent (Cohen, 1984). Some sociologists and anthropologists have equated tourism as a modern form of the traditional pilgrimage (Dann & Cohen, 1991; MacCannell, 1976; Nash & Smith, 1991). In their quest for authentic experiences and personal discovery, tourists set out on "sacred journeys" temporarily abandoning their structured society and demands of their day-to-day existence, and immersing themselves in a liminal, almost sacred atmosphere (Graburn, 1989). Sightseeing, shopping, sunbathing and other tourist activities are the ritual "pasos" of the pilgrimage, which upon their completion, the "renewed" tourist will return to the profane existence of home. Viewing tourism as a form of pilgrimage is but one way anthropologists and sociologist have tried to understand and explain the behavioral motivations of tourists.

During the later half of the twentieth century, the role of tourism as a global industry has attracted the attention of many economists. For a number of countries tourism has become the largest commodity of trade. Application of economic tools, such as cost-benefit analysis, supply & demand analysis, deductive modeling, market structure and multiplier analysis have been applied by economists at both the micro and macro levels to explain tourism phenomena. Regional analysis of tourism impacts is one of many areas in which economic logic and tools have been administered.

Tourism is considered to be an "export" of a community or region, attracting tourists to the area where they consume the product or services offered by the destination. The payment for these goods and services flow into the destination just as they would for any other export item. The revenues accrued from the export of tourism becomes the source of income for those employed in the tourism sector, and indirectly for those other sectors within the community or region. The estimation and description of tourism multipliers has
been a popular theme in the economic analysis of tourism (Archer, 1972; Eadington and Redman, 1991; Frechtling, 1987; Smith, 1989). Numerous techniques have been used to estimate the magnitude of the tourism multiplier, the value of which is not to rationalize the commercial value of the tourism export but rather to provide insights into the interconnectivity of local and regional markets to tourism. The economic perspective provides a clear and organized approach in the assessment of tourism development and in evaluating the impacts of different and oft times conflicting choices.

Numerous academicians from various “environmental” disciplines have demonstrated concerns with the apparent focus of government agencies and policymakers on the economics of tourism, and not on the physical condition of the host environment. The natural environment has historically been the primary attraction of tourist destinations. However, after decades of mass tourism activity, current research trends have turned toward identifying and developing ways in conserving the physical environment while maintaining tourism activities. Carrying capacity, sustainable development, natural resource management and environmental quality are concepts which, although originally developed in other fields, have been applied to tourism development.

Special attention has been given to the concept of resource conservation and sustainable tourism development (Budowski, 1976; deKadt, 1992; Farrell, 1990, 1992; Farrell and McLellan, 1987; Hitchcock and Brandenburgh, 1990; Inskeep, 1987; Smith and Eadington, 1992) Sustainable development prescribes the integration of the economic elements with the environmental and cultural needs of a community or region. Sustainability requires the fine-tuning of all elements within the tourism system so that "the system as a whole keeps its bearings without one of its elements surging forward to the detriment of the others" (Farrell and Runyan, 1991:35). Alternative, responsible, soft, and ecotourism are forms of the sustainable development theme of joining the host environment and tourism as equal partners. Boo (1990) presents several case studies of ecotourism developments in Latin America. Scientific interest and research in this contemporary
strategy of enlisting tourism as a tool for environmental enhancement and conservation will likely continue as global concerns for the natural, and cultural environment heightens.

Summary

The realm of tourism research is multi-disciplinary. When compared to other more traditional research fields tourism has gradually gained prominence among the social sciences. The impact of tourism activity and development upon the human, as well as physical landscape has attracted the analytical skills of anthropologists, sociologists, political scientists, economists, ecologists and geographers. The various models, conceptual frameworks and analysis techniques characteristic of each discipline has expanded our understanding of tourism and its influence upon both the tourist and host community. Because of it's focus on the uniqueness of place and spatial relationships between the diverse elements of both the physical and human environment, geography has a comparative advantage over other social sciences in investigating tourism phenomena. Geography's strength lies in its analysis of tourism as a complete system, where natural, cultural and economic variables are integral components of the tourist-host environment.
CHAPTER III

RESEARCH DESIGN

In choosing the data collection method to be used in this research, various approaches were examined. Questionnaires, interviews, direct observations, and all their accompanying variations were considered. The advantages and disadvantages of each method were carefully studied and reviewed, with special consideration given to the feasibility in conducting the research within the study area. Although the mail questionnaire was selected as the major data gathering device, direct observation and informant interviews were valuable supplements to the study.

Selecting the Questionnaire Method

The questionnaire method was chosen for several reasons. One of the primary intents of this study was to examine the perceptions and attitudes of each household within the study communities. The questionnaire method permitted numerous respondents to be sampled over a short period of time (Berdie & Anderson, 1974). In the interview method the number of respondents that can be questioned at one time is limited to the number of trained interviewers involved in the data collection process and time. If the interview method had been chosen as the primary data gathering device for this study, it would have taken a year or more to sample the entire population of the three communities. Interviews with a wide variety of local residents were used during preliminary phases of the study in order to gain insights into the communities and to develop an appropriate questionnaire.

The length of the data collection process was another factor influencing the selection of the questionnaire method. The study was conducted during the middle of the
tourist season when residents had had sufficient time to interact with the tourist activity in their communities, but not so much as to be weary of it. If the questionnaires had been circulated too early in the tourist season, respondents might not have had sufficient exposure to the tourism activity, whereas if the questionnaire had arrived late during the tourist season, resident attitudes and perceptions might have become emaciated by tourism. The interview method was considered inadequate, since it would have increased the time necessary to complete the data collection. Interviews would have been dependent upon people being at home during normal hours, and would have been susceptible to frequent schedule changes, financial limitations and temporal restraints that would have delayed the collection for several months. Following established methods and procedures for administering mail questionnaires, the entire sampling and data collection process was conducted over a three month period.

Changes in temporal, seasonal and environmental conditions, as well as interviewer biases, were also avoided with the questionnaire method. As was mentioned earlier, if data collection takes place over an extended period of time, then respondents are sampled at different stages of the tourist season. This would likely influence their perceptions of tourism. Those sampled early in the season would likely have more positive perceptions than those residents surveyed after months of interaction and contact with tourists. The questionnaire approach samples the respondents during a specific time period, thus providing more comparable responses (Anderson, 1974).

Another important factor supporting the selection of the questionnaire approach as the primary data collection tool relates to the familiarity, uniformity and reliability of the data set. The questionnaire is a sampling method with which most are familiar. (Berdie and Anderson, 1974) Since the questionnaire was completely self-explanatory, each respondent received the same questions in the same format with the same materials, thereby assuring the questionnaire's reliability and uniformity. If reliability were to be achieved using the interview technique, the researcher would have had to conduct all of
the interviews himself, or employ and train others to ensure each resident was interviewed similarly.

A final advantage in using the questionnaire method vs. other methods was the ability to cover a large geographic area. A small, central core of businesses and residential dwellings exists in each of the study communities. A larger portion of the population, however, is sporadically distributed across space within the region. The potential difficulty of locating each residence to conduct interviews was a major limiting factor. The mail questionnaire reduced the time and difficulty in contacting respondents who lived in remote, often secluded locations within the community.

Although the questionnaire method has many advantages, there were concerns about its limitations. The primary concern with the questionnaire method was the low response rate which is characteristic of this approach. Without the presence and attention of an interviewer, respondents tend to ignore or forget about completing the questionnaire. The degree of non-response has a significant influence upon the strength and applicability of the acquired results. Another concern is the possibility of introducing bias through question items. In some instances questions limit or direct the respondent's answer in offering only a limited selection of response options. Other limitations of the questionnaire approach, which possibly affect survey response, include prejudices against questionnaires, limits to question format, and population limitations.

Developing the Mail Questionnaire

In order to reduce the potential affects of these limitations upon the sampling process a number of survey techniques and procedures were used in the development and administration of the mail questionnaire. The "total design method" (Dillman, 1978) was the model used. The "total design method" (TDM) is a carefully articulated set of procedures designed to maximize survey response. According to TDM, survey response can be
increased by minimizing the respondent's cost for participating, maximizing rewards for participation, and establishing trust between the researcher and respondent. The design of an easy to understand and complete questionnaire, and the inclusion of a self-addressed, stamped envelope with each questionnaire were two simple, yet effective ways used in this study to reduce respondent costs.

Maximizing rewards for participation can be accomplished through verbal acknowledgments of appreciation, as well as, developing questions which demonstrate positive regard for the respondent and support of local values. A tangible reward has also been found to be an effect motivator for participation. Studies have found that promised rewards are very effective in increasing survey response among rural communities, and introduces little, if any, systematic bias to the survey (Dillman, 1978; Kanuk & Berenson, 1978; Whitmore, 1978). Explaining the role of the respondent and the importance of their response to the success of the study represents another way of expressing positive regard for the individual respondent.

Establishing trust with respondents can be a difficult process. Even though a considerable amount of time was spent by the researcher talking with members of each community about the nature, intent, and value of the study, a majority of the respondents were first introduced to this study during the initial mailing of the questionnaire. Efforts were taken in the questionnaire and the accompanying letters of introduction to explain the purpose of the study, the role of the respondent, confidentiality of their responses and the function of the six digit identification number that had been stamped on the questionnaire. Identifying the study with a known organization that has legitimacy, such as a public agency, business or university, enabled the respondent to connect the research to a responsible organization. Using official letterhead and including a toll free telephone number for those respondents who might have concerns or questions about the survey demonstrated an openness conducive to increasing trust.
Establishing trust, maximizing rewards and minimizing the costs to respondents were three aims identified by TDM for achieving maximum response to the survey. These aims were applied throughout the study along with other TDM procedures governing the writing and ordering of survey questions, the formulation and layout of the questionnaire, and the initial mailing and subsequent follow-up guidelines. The use of TDM in the organization and administration of this study resulted in a 53% response rate, well above the norm identified in other mail questionnaires of this size and type (Davis, et. al., 1988; Liu, et. al., 1986; Liu and Var, 1984; Rothman, 1978; Um & Crompton, 1987).

A pool of questions was created from a number of resources. Direct observations and informal conversations were conducted with residents in a variety of milieus, eg., post offices, grocery stores, mini marts, gas stations, information centers, private dwellings, commercial businesses and government facilities. The information gathered from these conversations was later organized into thematic groupings from which specific questions or statements were formulated. Questions and statements addressing the role of government in the promotion and development of tourism and the effects of tourism upon the local economy and the physical and social environments were developed. The number of questions falling within each group varied. Many of the responses focused on similar issues and were systematically combined into single questions.

A number of personal contacts were established between several residents in each community and the researcher. During subsequent visits to the study area these contacts or "informants" were often asked to explain or comment on the findings and observations made by the researcher. The use of informants is a useful tool in ethnographic research that enables the researcher to acquire the informant's understanding of local phenomena (Spradley and McCurdy, 1972). The informants were important for understanding the overall character and feelings of their communities, as well as identifying significant resources that facilitated in the data collection process. Since all three communities in the study area are unincorporated, having no defined boundaries or corporate limits, informants
were instrumental in defining the spatial boundaries of their communities. They also provided answers to valuable descriptive and structural questions regarding the history, character and organization of their community that were not generally apparent from direct observation or the literature review.

Questions were also adopted from similar studies identified during the literature review. (Allen, et. al., 1988; Belisle and Hoy, 1980; Liu, Sheldon and Var, 1987; Liu and Var, 1984; Pizam, 1978; Sheldon and Var, 1984) These questions often addressed issues not clearly identified by observations or by "informants" but were prevalent in the literature and had possible applications within the study communities. Questions regarding hazard perceptions and general tourism characteristics were also drawn from the existing literature (Sorensen, 1981). Using information gleaned from the literature, combined with the data collected from "informants" and direct observations, a battery of questions was developed and incorporated into a pilot questionnaire.

The Pilot Questionnaire

The pilot questionnaire consisted of 85 items and was subdivided into three parts or sections. The first section focused on the perceived hazard of living near an active volcano. Resident perceptions of the hazard and its influence upon their lifestyles, as well as the tourism industry were solicited. Regional newspapers and magazine articles suggested that tourist numbers increased when reports of tremors and possible volcanic activity were announced by USGS and monument officials (The Columbian, 1980), therefore it was desirable to know if residents perceived any increase in tourist numbers when the volcano was active. This section also addressed the attractiveness of the area to tourism both prior to and after May 1980.

Section two of the pilot questionnaire contained over 60 statements about tourism and their community to which residents were asked to indicate their agreement or
disagreement along a 5-point Likert scale (Likert, 1932). This type of scale is used frequently in questionnaire design because it is easy to use, requires minimal advance testing and development, and recognizes the wide range of involvement, concern and knowledge among respondents toward given issues (Stankey, 1971). The Likert scale has also shown to be fairly reliable in obtaining reproducible results (Smith, 1989). The final section of the questionnaire solicited typical demographic information regarding the respondent, eg., length of residency, age, employment, education, and income. The data collected here was used to identify variables which might influence how residents perceive tourism in their community.

The pilot questionnaire was administered to residents of all three study communities. The survey literature indicated a sample of 100 as being a sufficient number for testing the questionnaire (Oppenheim, 1966). Questionnaires were administered in the form of structured interviews by the researcher and an assistant. They were conducted in private residences, commercial establishments, government offices, private businesses, schools and other locales. In some instances questionnaires were left with respondents who, due to the nature of their work, were unable to complete the survey at the time of contact, but agreed to do so at another time, usually during lunch hours.

The pilot questionnaire was also administered to faculty and student colleagues at Oregon State University who were familiar with the purpose of the study, as well as questionnaire design and statistical analysis. These individuals were asked to scrutinize and evaluate the questionnaire for its ability to test and meet the objectives of the study.

The intent of the pilot questionnaire was to identify problems with the survey tool and remove them, thereby improving the interrogatory power of the master questionnaire. Several minor yet significant changes and deletions were made in the content and number of questions. The most notable change recommended by several residents and colleagues was the addition of "pyroclastic flow" to the list of volcanic events. During the May 18th eruption, searing gases carrying minute particles of tephra and ash raged down the northern
slope of Mount St. Helens leveling trees as if they were toothpicks, scorching everything that was in its path. This high velocity flow of pyroclastic material had a major impact on the physical environment and was a significant event of the 1980 eruption. The Billowing clouds of tephra and gasses into the atmosphere above the crater could be viewed from miles around, and for weeks later on television news programs. However, it should be noted that a number of respondents had questions as to the definition of "pyroclastic flow" when it was included in the master questionnaire.

In compliance with the guidelines of Murphy and Likert (1938) only those statements which differentiated between resident responses were kept as part of the question battery. If the statement did not differentiate among the respondents, it was determined to be unsatisfactory and removed from the battery. Statements were determined to be satisfactory through item analysis. Item analysis is useful not only in revealing differentiation among statements, but it also indicates where numerical values given to the degrees of agreement are not properly assigned. On a 5-point Likert scale each degree of agreement is assigned a value between one and five, where a value of 1 represents one attitudinal extreme and a value of 5 the opposite extreme. If a negative correlation coefficient is obtained through item analysis, it indicates the values of the particular question have been improperly assigned and need to be reversed. On the basis of the item analysis the researcher can refine the battery to include only the most differentiating statements to be included in the master questionnaire.

Upon correcting the problems identified by experts and respondents, and upon removing questions determined statistically insignificant through item analysis, a 42 item master questionnaire was developed. Following the guidelines of TDM, a six page survey pamphlet, which included a cover page with the study title and Mount St. Helens graphic, was created for distribution to the study communities.
Distribution of the Questionnaire

Due to the small population sizes of the three study communities it was determined that a census of households in each community would be appropriate and more desirable than selecting a random sample from the population. Random sampling is commonly used in sampling large populations. Using the random sample method a body of respondents, or in this case households, are arbitrarily selected to reduce the size of the study population, thereby improving the feasibility of conducting the survey. Various controls are employed in the sampling process to guarantee the representativeness of the sample population, so that it accurately represents the demographic composition of the total population.

Consultations with faculty members in the Oregon State University Department of Statistics and Department of Geosciences resulted in the decision that a census survey of each study population would reduce the possible complications associated with a randomized sample, and would result in a larger data set for statistical analyses. In the case of this study it was determined that the combined population size of all three communities was not so great as to be unmanageable, and that the difficulty of surveying the entire population, rather than sampling a random, representative group, was negligible.

A combined population of 1012 households were identified within the three communities. Telephone directories, voter registration lists, and interviews with postmasters and "informants" were used to calculate the population size of each community. Upon consulting with Census Bureau employees in Portland, OR, and Census librarians at the Portland State University Library, it was determined that data from the 1990 Census would not be helpful in determining the relative size of the study population. Because of their small populations U.S. Census data for these rural, unincorporated communities are consolidated into larger blocks of data which extended beyond the study area. It was
therefore determined that other sources, eg. telephone directories and voter registration
documents, would be of greater utility than U.S. Census data.

The telephone directories and voter registration lists are widely accepted sources
for population data. The questionnaire was administered during an election year, and at
the time of the mailing Washington State had already conducted primary elections for key
political offices, including President of the United States. Dillman has found that
"proportions of household with unlisted telephone numbers is near zero" in most rural
areas. (1978:43) A primary concern in using these two data sources was the possibility of
missing those households in which there lived no registered voters and which did not have
telephone hook-ups. After presenting this concern to "informants" from each community, it
was concluded that although the possibility existed, the combined data lists were a close
representation of the local population.

Since these communities were unincorporated, and therefore had no actual
municipal boundaries, the postal zip code was used to delineate the spatial boundaries of
each community. In this way decisions to include or exclude households from the study
could be done systematically. This method also allowed smaller, "second home"
developments, which occasionally depend upon services provided by the study
communities, to be excluded from the study. Although the seasonal inhabitants of these
developments do not consider themselves to be tourists, year round residents do not perceive
them to be part of their community.

The first "questionnaire packet" was sent first class mail to the study communities
in mid-July. Each packet contained a cover letter, questionnaire booklet, and a stamped,
return envelope. A sample of the initial cover letter and the survey questionnaire have
been included in the appendix. Prior to mailing, each questionnaire was stamped with an
identification number corresponding to individual households in each community. The
purpose of the identification number was to identify who had responded to the
questionnaire, thus avoiding subsequent follow-up mailings and minimizing future costs.
A total of 255 questionnaires were returned from the initial mailing, yielding a 25% response rate. Another 82 questionnaires (8%) were returned unopened; the individuals had either moved from the area and had left no forwarding address, or had passed away within the year. In total 337 questionnaires were returned between the initial mailing and the follow-up postcard.

The second mailing was done two weeks after the initial contact. This mailing consisted of a postcard reminding respondents about the importance of their participation, and thanking those who had already responded. In the case that the questionnaire had been lost or discarded, a toll free telephone number was included on the postcard. Individuals who had misplaced their questionnaire were encouraged to call collect and request another. Seven individuals used the number to request another questionnaire. Once again, each questionnaire was stamped with the corresponding identification number and then forwarded to them by first-class mail. The postcard mailing increased the total response rate by another 141 questionnaires (14%) giving a total tally of 478 completed questionnaires.

A third and final mailing was sent out three weeks after the second mailing. The third mailing packet was similar to the initial packet. A revised cover letter, further stressing the importance of individual participation, as well as a second copy of the questionnaire and a stamped, return envelope were mailed to those households that had not responded to the previous mailings. The third mailing resulted in 108 responses, giving a total response rate of 53% for the three mailings.

The entire survey period extended over a period of eight weeks from the time the first questionnaire was mailed until the last response was received. Toutle had the best response rate of the three communities in the study; 55% of the population completed and returned the questionnaire. Randle was a close second with 53% of the households responding. Only 36% of the residents of Cougar responded to the questionnaire. This was
in stark contrast to the overwhelming response of this community (71%) to the pilot questionnaire.

Efforts were made through telephone and personal contacts to identify motives for non-response, and to solicit some responses to selected items from the questionnaire. The primary reasons for non-response appear to have been a dislike for questionnaires of all types, and general apathy toward the current tourism situation in their community, as well as this study. Variance between the perceptions and attitudes of non-respondents toward tourism and its impact upon their community and those responding to the questionnaire appears to have been insignificant.

Questionnaire Analysis

The analysis and interpretation of questionnaire data, as with any survey instrument, is dependent upon the level of measurement used in the analysis. Each level of measurement contains certain scale properties. The objective of analysis is to apply the measurement scale which is consistent with the phenomenon being measured (McDougall & Munro, 1987). There are four major properties of scale, or levels of measurement: nominal, ordinal, interval and ratio scales. Each of the 43 items in the questionnaire were categorized according to its measurement level, and are presented in Table 3.1. The following discusses the statistical procedures appropriate for each measurement scale and how they were applied to the analysis of each question.

The most primitive level of measurement is the nominal scale. Ten questions from the study questionnaire fall into this measurement level. The nominal scale assigns labels, usually numbers, to response data in an effort to classify them into similar groups. For example, Question #39 asked for the sex of the respondent. All males responding to the questionnaire were labeled '1', while those who were female were assigned '2' as their label. Subsequently, two groups, group '1' (males) and group '2' (females), were created.
The only measurable relationship that can be identified using the nominal scale is one of equivalence. Statistics which can be used to describe or summarize group characteristics include the mode, frequency and contingency tables and chi-square analysis. The $x^2$ (chi-square) one-sample test was the only statistical test used with the nominal data.

As indicated in Table 3.1, the greatest number of questionnaire items (26) fell into the ordinal level of measurement. Ordinal scales have the same properties as the nominal scales, as well as the property of indicating order and rank. Questions #9-34 were structured under a 5 point Likert scale, where categories of agreement proceed in a logical progression or order from "Strong Disagreement" to "Strong Agreement". In these cases equivalence and rank are conducive to statistics such as the median and percentiles to determine the most positive or negative perceptions of tourism phenomenon. Factor analysis was used to identify equivalence among responses, combining statements into four primary groups or clusters. One-way analysis of variance was then used to identify significant differences between the clusters and existing relationships between the clusters and other independent variables, such as community, age and education.

There were no interval scale questions contained in the study questionnaire. Interval scales retain the same properties of the preceding scales plus having a known distance between ranked objects on the scale. All of the "standard" statistical tests, such as mean, standard deviation, t-tests, analysis of variance and regression analysis, can be computed using this type of measurement scale. Interval data, however, cannot indicate the absolute magnitude of the objects, since the zero point remains arbitrary.

The last and most powerful measurement scale is the ratio scale. Five items from the questionnaire were representative of this type of scale. The ratio scale measures phenomena with respect to an absolute zero value. Questions regarding years of residence, age, tourist numbers, income and education are examples of ratio scales. Because they have an absolute zero point virtually all types of statistical analyses were possible.
Table 3.1. Measurement scales and the classification of questionnaire items.

<table>
<thead>
<tr>
<th>Measurement Scale</th>
<th>Item Number</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>1, 2, 3, 4, 5, 6, 7, 36, 37, 39, 40, 43</td>
<td>12</td>
</tr>
<tr>
<td>Ordinal</td>
<td>9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34</td>
<td>26</td>
</tr>
<tr>
<td>Interval</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Ratio</td>
<td>8, 35, 38, 41, 42</td>
<td>5</td>
</tr>
</tbody>
</table>

Cross-tabulation, or contingency tables as they are also called, were the major vehicle for associating the different variables presented in the first section (Part I) of the questionnaire. These tables permitted establishment of a correlation between the particular volcanic event and the home community of the respondent. Chi-square testing was again used to determine the significance of the observed associations.

Data analyses were conducted using a combination of statistical software programs. STATGRAPHICS and SYSTAT were used to conduct the frequency analyses and other descriptive statistics. Chi-square, factor analysis and the one-way analysis of variance were conducted using SYSS. The one analysis that did not use the computer required the examination of open-ended responses. Responses from Question #7 were distinguished and correlated through content analysis, followed by frequency calculations. The significance level of .05 was taken as the cut-off criterion for each analysis.
In concluding this discussion on the various types of quantification implied by the items in the questionnaire, the preponderance of ordinal data must be emphasized. Ordinal data is limited to parametric statistical tests; descriptive analyses of relationships and similarities. Currently, there is a debate among statisticians and scholars regarding the acceptability of treating ordinal data as interval data in order to strengthen conclusions (McDougal & Munro, 1987; Smith, 1989). At one side of the debate are those that believe the level of agreement between ordinal ranks, characteristic of scales similar to the one used in this study, can be assumed to possess interval properties, and lend themselves to parametric statistical testing. However, there is great concern expressed from the opposite side of the debate for the potential abuse of analysis if such assumptions were standardly accepted.

Until a general consensus can be reached, those questions identified as having ordinal properties were handled as such. That meant that the statistical techniques appropriate to the analysis of the questionnaire's findings were restricted. Nevertheless, the empirical quality of most of the questions and personal interviews compensated a great deal. The attitudes of the local populations living at the gateways to Mount St. Helens were measured, and statistical analyses were used to show variations in resident perceptions of tourism. These data, combined with materials from interviews and personal observations, provide substantial insights into the varied ways in which people of these small communities have dealt with disruption in their lives as a result of both geophysical and socio-economic forces.
CHAPTER IV

ANALYSIS OF RESPONDENT DEMOGRAPHICS AND PERCEPTION OF HAZARD

Overall response to the mail questionnaire was positive. Of the 1012 questionnaires mailed, 528 were returned yielding a 53% response rate. A wide variety of responses were recorded. This chapter briefly discusses the demographics of the respondents. It then analyzes data on respondents' perception of the threat of volcanic events upon their community. Although the source of the hazard is the same for all three communities, particular volcanic events occur in different locations around the volcano. Communities perceive some events similarly, yet due to their unequal distribution across space, particular events are perceived differently. The relationship between volcanic activity and increased tourist activity is also examined. Resident perceptions of volcanic events which either threaten or promote tourism are examined. Perceptions of this relationship is also analyzed by individual communities.

Respondent Characteristics

One of the early concerns of this study was the ability of the respondents to recognize any changes that may have occurred in their communities since the eruption. An assumption of this study was that the three study communities had experienced tourism induced changes over the last thirteen years, or at least the residents of these communities perceive changes having taken place. Therefore, in order for residents to perceive how tourism has impacted their community, it is important that perceptions of community life prior to the eruption also exist: a baseline from which perceived change can be interpreted. Although no official survey was ever conducted, a considerable number of individuals and families were reported as having left the area after the eruption (USDA, 1981).
During the preliminary interviews and analysis it became evident that a majority of the existing population resided in the study area before the 1980 eruption. These preliminary findings were supported by the data collected by the primary questionnaire. Respondents were categorized into six groups according to their geographic distance from the study communities and Mount St. Helens (See Figure 4.1). According to the results of the questionnaire, 71% of the respondents were living in the study communities when Mount St. Helens erupted. Another 14% lived in neighboring communities within a 100 mile radius of the volcano. Therefore, roughly 85% of the respondents to the main questionnaire were familiar with life "before the volcano," and could provide insights into the evolution of today's tourism in their communities. Only 68 (13%) respondents lived more than 100 miles from the volcano when it exploded, a majority of which lived in one of the three states (WA, OR, ID) which constitute the Pacific Northwest region of the U.S. A significantly large percentage of the study population was witness to the immediate social stress and rebuilding associated with the disaster and experienced the growth of today's tourism industry within the Mount St. Helens' region.

In those areas where tourism has extended beyond a community's tolerance threshold, where negative perceptions have exceeded the perceived benefits, residents tend to distance themselves from areas of high tourist concentration. Any patterns or trends identified from the survey data might have been indicative of a low tolerance for tourism among local residents. The results from the survey, however, revealed that a majority of the respondents (65%) live at the same residence as they did when the Mount St. Helens National Volcanic Monument was created in 1982. The creation of the national monument marks the unofficial beginning of volcano-oriented tourism to the region. It is therefore apparent that increased levels of tourism have not led to much relocation within the study communities.

The small number of respondents who have moved into the area over the last five years (8%) is also interesting. Tourism development generally attracts people to the
destination area in search of employment. The expansion of services and facilities which cater to the growing tourist population are generally labor intensive. However, survey findings indicate that little growth has occurred in the resident populations of the study communities. One might conclude one of two possibilities explaining the low percentage of move-ins: 1) all of the jobs created by tourism in the area have been filled by the existing labor force, or 2) the needs of tourists are being met by individuals or facilities located outside of the study communities. Both of these explanations apply to the three study communities.

Figure 4.1. Respondents' place of residence on May 18, 1980. (Source: Question #1.)

Timber has historically been the dominant employer in the region (Ott and York, 1983). Nearly every household has at least one member who is employed by the timber industry. As the timber industry has slowly declined over the past ten years, and tourism activity has increased, other household members, generally women, have acquired jobs to
help subsidize the household income. Most of these jobs have been in tourism related areas, e.g., clerks (grocery, gift shops, convenience shops, information centers), waitresses and housekeepers. However, the number of new developments has been limited, and most of the tourist's needs are being met by other commercial establishments located along the Interstate 5 (I-5) corridor. Although the increase in hotel/motel construction, gas stations, restaurants, information centers, museums and other facilities along I-5 cannot be directly linked to Mount St. Helens tourism, there is little doubt that the proximity of the volcano to the corridor makes the area even more amenable to tourists. Therefore, because of the limited number of jobs available within the study communities, it is not surprising that the area has not experienced a greater number of move-ins as the number of tourists to the area has increased.

Over half (59%) of the respondents were employed at the time the questionnaire was administered. For purpose of analysis the occupations of the respondents were categorized into four groups: Timber industry, Government, Tourism industry, and Other (see Figure 4.2). As was expected the timber industry is the largest employer among all of the respondents (37%), followed by the County and Federal government (17%) and then the tourism industry (8%). Tourism is the third largest employer in the three study communities, which is noteworthy since it competes with the timber industry for available resources and space. Because of the diversity among the remaining responses non-tourism/non-timber oriented occupations, e.g., farmers, housewives, mechanics, private businesses, educators and health care occupations, were combined under the Other category, which accounted for 23% of the remaining responses.
Figure 4.2. Primary occupations of respondents.
(Source: Question #37.)

The retired and disabled community was the largest (27%) non-employed group responding to the questionnaire. The size of this response group is significant to the perception of tourism in the region. There are those retirees who have lived out their lives in the area, while others have moved into the area upon retiring from their jobs in the neighboring urban areas to escape the influences of the city. The "old timers" have lived through the evolution of their community over the past decades, and are generally tolerant of tourists and tourism induced changes. The "city folk", who came to the area to escape the congestion and intensity of urban life and enjoy the tranquillity of a rural environment, tend to be less tolerant of tourists. A third group of retirees consist of disabled timber workers. The timber industry is a dangerous and physically demanding one in which disabling accidents are not uncommon. Too young to officially retire, these individuals see tourism as a possible venue for marketing handicrafts or other services from within their homes.

Five hundred and eight people provided information on their age. The modal age of the respondents was between 40 and 49 years. This mode coincides with the total
respondent's age category having the greatest frequency (Figure 4.3). The category with
the second largest frequency was the 30 to 39 age group. A greater percentage of the
respondents were male (60%) vs. female (38%), and 84% were parents of one or more
children. Although no relationship between sex or the number of children and perception of
旅游发展没有在旅游研究中被识别，但年龄是的。

Typically, attitudes toward tourism worsen with age. Therefore in communities where
there is a large senior population, negative attitudes and perceptions would be expected.
However, such was not the case in the three study communities. When age was correlated
with the factor groups from Part II of the questionnaire, it was found that as age increased
residents were less bothered by the overcrowding and congestion in their community. Older
respondents were also more receptive to government assistance in developing tourism and
recognized the economic and social benefits tourists generated. Nevertheless, tolerance of
tourist behavior decreased with age. Overall, the attitudes and perceptions among the
study communities improved with age, which is in significant contrast to the findings of
other tourism studies and analyses.

![Figure 4.3. Age distribution of respondents](Source: Question #38.)
The distribution of respondent income is presented as Figure 4.4. Five hundred and fourteen individuals (86%) completed the question on their 1991 household income; the modal income fell just within the $35,000 to $44,999 income category. The category with the largest response frequency was the $25,000 to $34,999 group. These results were in line with 1990 U.S. Census data for population income in the two counties which enclose the study communities.

![Income Levels of Study Population](image)

Figure 4.4. Income levels of study population.  
(Source: Question #41.)

Responses to the last demographic question on education indicate that out of the 519 individuals completing that question, the majority had completed high school and continued on to attend at least some college. Frequency statistics are illustrated in Figure 4.5. Over half of the respondents (52%) had continued beyond high school, however only 10% of those who continued on to college received a college diploma. Five percent had attained advanced degrees, primarily in forestry and education. Only 13% of those queried had not completed high school. Certainly the respondent population was above average in education, as was noted through comparison with U.S. population figures.
Figure 4.5. Educational levels of respondents.
(Source: Question #42.)

Demographic Summary

Because considerable numbers of residents were reported to have left the area, there were concerns that current residents might be unable to identify any changes in the tourism activity within their community. Results from the survey showed that a significant majority of current residents lived in the study area at the time of the eruption, satisfying preliminary concerns. Respondents were found to be well-educated and earning average incomes. The timber industry is the largest employer among residents of the three communities, followed by government and tourism. As a result of the sluggishness of the timber industry and the absence of tourism related jobs, the communities have experienced little population growth. Although age typically has a negative affect on resident attitudes, it was found that perceptions and attitudes improved with age.
Four of the first five questionnaire items focused on resident perceptions of living near a natural hazard and how the hazard might influence the behavior of the local population, as well as the actions of tourists. When asked about the likelihood of a similar eruption occurring again in their lifetime, 237 (45%) of the respondents believed that there was a 1/100 chance of such an event. Nearly 80% of the respondents believed there to be less than a 50/50 chance that they would experience an eruption of a similar magnitude ever again. Their perceptions may be well founded. The physical devastation, particularly to the mountain itself was so great that it will take hundreds of years for the volcano to rebuild itself to pre-1980 form. Scientists have a far greater understanding of the mechanics and behavior patterns of the volcano than they did in 1980, and emergency plans and retention structures have been created to reduce the human and physical losses which could result from future eruptions. Only a small number of respondents (2%) felt certain that a similar event would occur again in their lifetime.

Respondents were asked to identify from a list of volcano related hazards those events which would be of greatest threat to their community, as well as to tourism in general. As a study population respondents identified only two hazards which would threaten their communities: ashfall (52%) and earth tremors (55%). Both of these hazard events occurred during or just prior to the May 18th eruption. Respiratory problems, vehicle damage and structural damage to homes and small buildings were all attributed to the excessive amount of volcanic ash that was deposited over the region. The deposition of ash undoubtedly had more extensive impact upon the region than any of the other volcanic events.

Earth tremors were reported months before and after the May 18 eruption. Due to the location of Mount St. Helens along a subduction zone of the Juan de Fuca and the North American tectonic plates, periodic tremors in this region are not uncommon. It was a quake
of 5.5 on the Ricter scale that caused the massive slump on the north slope of Mount St. Helens which spurred the eruption of May 18th. People living on the eastern and southern fringes of Mount St. Helens have become sensitive to movements in the earth. Tremor activity has been reported by some local residents that has not registered on seismic activity measuring equipment (USDA, 1981). Whether these reports are accurate or not, they are a reflection of resident perception of the potential hazards of Mount St. Helens.

It is interesting to note that three events which occurred during and/or after the eruption of Mount St. Helens were not listed as hazardous by the respondents, even though they had the most devastating effects upon the region. As an entire study population, mudflow, pyroclastic flow and flooding were not perceived to be threatening volcanic events, neither were forest fires, lava flows nor avalanches. Hot, searing wind storm of gases and tiny volcanic particles roared across Spirit Lake, over mountain ridges and down river valleys, leveling all that stood in its path. The mudflows that rumbled down the drainages of the Toutle, Muddy, Pine and Smith Creek systems carried tons of soil and boulders, as well as trees, livestock, homes and other debris to the Cowlitz and Columbia Rivers. The heavy debris content threatened bridges and highways, and created problems for commercial navigation along the Columbia River. A number of streams were dammed by the mudflow, speckling the lunar landscape with lakes.

The threat of flooding was of greatest concern to residents early after the eruption. The natural drainage outlet of Spirit Lake had been blocked by the massive landslide, and it was feared that over time the earthen dam would give way to the increasing pressure of the growing lake. In an effort to alleviate the threat the U.S. Army Corps of Engineers drilled a tunnel through Harry's Ridge, creating an artificial outlet from the western shore of Spirit Lake. The Corps also constructed a large sediment retention dam across the North Fork of the Toutle River to prevent future deposition into the Columbia River.

Those events perceived as unlikely threats to the community were perceived to be most attractive to tourists. Only lava flow (51%) received a majority of respondent votes as
a tourist enticing hazard. Some confusion over the definition of pyroclastic flow may have existed among respondents. Pyroclastic materials billowing high into the atmosphere created some of the most vivid images of the eruption. Swarms of sightseers jammed the highways and popular viewpoints hoping to witness the May 18th eruption, as well as later eruptions (The Columbian, 1980). This form of pyroclastic activity was a major tourist attraction, and brought hundreds of tourists into the study communities.

In contrast, the searing pyroclastic flows responsible for the devastation beyond the bounds of the landslide and mudflows, destroyed all within their path. This type of pyroclastic activity would surely discourage tourism. However, the after effects of the high velocity winds have become a major attraction within the monument. The same could hold true for the affect of mudflow on tourism. Post hazard effects are generally more attractive to the tourist than experiencing the real thing.

Responses to the volcanic events questions were analyzed according to the characteristics of the respondent, particularly their place of residence. Although the events listed in these two questions have been associated with past eruptions of Mount St. Helens, they do not occur equally across space. Therefore, residents may perceive themselves and their community as being more susceptible to certain volcanic hazards than other communities within the same region. Using cross-tabulation and chi-square statistics, differences in community perceptions of volcanic hazard were analyzed.

Cross-Community Perceptions of Volcanic Events

When responses from the volcanic events question were cross-tabulated with community several significant relationships are revealed, indicating distinct differences between the perceptions of each community. Figure 4.6 presents the results of this cross-tabulation. There is a high degree of similarity in the responses of the three communities toward such events as, earth tremors, pyroclastic flow, avalanche and lava flow. Earth
tremors and lava flow are identified as possible threats to their community, while pyroclastic flows and avalanches are not. There was a significant response variance in regards to the remaining events: mudflow, ashfall, forest fire and flooding.

Toutle respondents had an opposite perception of the possible threat of mudflow than did the residents of Randle and, to a lesser degree, Cougar. Over 79% of those responding from Toutle believed mudflows to be a possible threat, whereas 67% of Randle residents did not consider them as threatening. Pearson's chi-square analysis test indicated that the variation between Toutle and the other two communities was significant (p-value < .00001). This variance can be explained by a brief examination of the events surrounding the May 18th eruption.

Of the three communities in the study area, Toutle was the most affected by the mudflow that scoured its way down the North Fork of the Toutle River. The rivers which drain the valleys and basins north of the volcano were not directly affected by the mudflow. The rapid melting of the glaciers on the southern and eastern slopes of the mountain produced smaller mudflows in comparison to those on the Toutle River, and were contained by a series of reservoirs along the Lewis River. Since the residents of Cougar and Randle had not experienced any extensive mudflow damage, it is logical that they would not consider future mudflows to be threatening. Conversely, since Toutle residents experienced the destruction of the lahars first hand, concerns for future mudflows would be expected.
Figure 4.6. Resident perceptions of volcanic hazards
(Source: Cross-tab Questions #1 and #4.)
Figure 4.6. (continued) Resident perceptions of volcanic hazards.
Chi-square analysis was used to test the significance of variance between community perceptions of ashfall as a hazard. The community of Randle strongly identified ashfall as being a threat to their community with nearly 62% indicating 'YES'. The other two communities were less affirmative in their responses. Statistical tests resulted in a p-value of 0.00392 < .05. All three communities experienced ash deposition from either the May 18th or subsequent eruptions of Mount St. Helens. However, ash deposition was the primary event experienced by Randle residents, a result of prevailing southwest winds which followed the eruption. The impact temporarily hampered transportation in and around Randle, and caused extensive damage to vehicles and machinery.

The potential of forest fires sparked from a volcanic eruption was of greatest concern for residents of Cougar. Over 90% of Cougar respondents felt that forest fires ignited by a volcanic eruption could threaten their community. Responses from Randle and Toutle tended to be more evenly distributed across the spectrum of responses. Unlike the other two communities, Cougar is enclosed by forests and is the closest of the three communities to the volcano. If volcanic activity were to spark a forest fire Cougar would be most susceptible, largely due to its geographic proximity to the volcano and the surrounding forests. Randle is also surrounded by forests, but because it is located at a greater distance from the volcano, residents believe that it would be highly unlikely that a fire ignited by the volcano would reach their community.

The threat of eruption induced flooding is also perceived differently between the three communities. Chi-square testing indicated that at least the perceptions of Toutle residents differed from that of the other two communities (p-value = 0.01062). The explanation of this variance in community perception is similar to that of mudflows. People in those communities which did not experience any or little flooding did not perceive it as a future threat, whereas respondents from the remaining community, which experienced property loss and damage from increased water levels, consider flooding as a
probable threat. Randle residents were quick to point out however, that flooding would be a serious threat to their community if Mount Rainier were to erupt. The Cowlitz River, which headwaters in the glacial runoff of Mount Rainier’s southern face, flows through the community of Randle. If an eruption were to occur, the intense heat would rapidly melt the glacier fields, creating giant, muddy lahars down the channel of the Cowlitz River and into Randle. The devastation resulting from such an event would most likely exceed that created by the mudflows resulting from the Mount St. Helens eruption.

Living in close proximity to a "smoking" volcano has its share of stress and anxiety. A large majority of the participants in this study were living in the area at the time of the May 18th eruption, and underwent great stress as they recovered from the aftermath. Today, these communities are better prepared for volcanic eruptions similar to those experienced in 1980. Evacuation plans and warning systems have been established in an effort to reduce human loss. However, one element not included in the community evacuation plans has been the ever growing tourist population in these communities.

Volcanic Activity and Tourist Numbers

Numerous accounts in magazines and newspapers have indicated that when Mount St. Helens is active, or if an eruption is eminent, tourist numbers increase significantly (The Columbian, 1980). In reviewing the questionnaire data, it is evident that local residents concur with the printed media (See Figure 4.7). Figure 4.8 shows that nearly half of all respondents stated that not only do tourist numbers increase, but they increase dramatically as the volcano becomes more active, while less than 10% believed the tourist population decreased. Responses to this question were cross-tabulated by community, the results of which were determined to be statistically insignificant.
Figure 4.7. Perceived influence of volcanic activity on tourist numbers.
(Source: Question #3.)

Figure 4.8. Perceived correlation between tourist numbers and volcanic activity by community.
(Source: Questions #1 and #3.)
The volcanic activity vs. tourist numbers data was also cross-tabulated with respondents employment (see Figure 4.9), specifically to analyze the perceptions of those individuals employed in the timber, government or the tourism industry with their perceptions of tourist numbers and volcanic activity. Respondents employed by the government and in the tourism industry had a higher perception of tourist numbers in relationship to volcanic activity (81%). Nearly 62% of those respondents employed by tourism identified dramatic increases in tourist numbers. Although they perceived an association between volcanic and tourist activity, timber employees seemed less sure of any direct relationship; 16% feel tourist numbers remain unchanged when Mount St. Helens is active. It would appear that residents perceive tourists as being no more bothered by the physical hazard than are the local residents. But do these perceptions hold true for all forms of volcanic hazards, or are some volcanic events perceived to be of greater threat than others?

Figure 4.9. Perceived influence of volcanic activity on tourist numbers by resident’s occupation.
(Source: Questions #3 and #37.)
Perceived Influence of Specific Volcanic Events on Tourism

One of the major aims of this research was to analyze residents' attitudes toward the growing tourism industry within their communities. As was presented earlier in this chapter, when the volcano is active, the number of tourists increases. Residents were asked to identify which volcanic events would affect tourism activity in their community. Ashfall, earth tremors, forest fire, flooding and avalanche were all identified as threats to local tourism industries. It is interesting to note that one of the events identified as being attractive to tourists (e.g., mudflows) was perceived as constituting a threat to the community. Respondents from all three communities overwhelmingly perceived lava flows as being attractive to tourists. Cougar residents had the highest response to lava flows encouraging tourists (73%) followed by Toutle (70%) and then Randle (54%). The variance between Randle and the other two communities was reported as significant through chi-square analysis (p-value = .00568). One possible explanation for this variance is the absence of any lava activity in the geologic record in the Randle area. Since lava activity has mainly occurred along the southern slope and within the crater of the volcano, it is unlikely that increased activity would affect tourism north of the mountain.

Mud and pyroclastic flows were identified as affecting tourism to the area, mainly by attracting tourists. Once again, Cougar (63%) and Toutle (60%) residents felt that the giant, muddy lahars would encourage tourists, while respondents from Randle remained relatively undecided with approximately a third (35%) indicating mudflows as a tourist attraction. This difference was also identified through further statistical testing as being significant, having a p-value of less than .0001.

Pearson’s chi-square test indicated significant differences existed between Toutle and the other communities (p-value = .03085), in reference to pyroclastic flow. Over half of the residents of Toutle (51%) believed pyroclastic flows would attract tourists. As was mentioned earlier, there was some confusion in the interpretation of "pyroclastic flow".
Figure 4.10. Tourism activity and volcanic events as perceived by residents. (Source: Questions #5.)
Figure 4.10. (continued) Tourism activity and volcanic events as perceived by residents.
The almost equally divided "ENCOURAGE" and "DISCOURAGE" responses to pyroclastic flow from Randle (38%/34%) and Cougar (38%/38%) residents were indicative of the confusion that existed.

Summary

Residents of the three study communities are little troubled by the volcanic hazards associated with living in the shadow of an active volcano. Few residents believe an eruption similar to that of May 18, 1980 will ever happen again in their lifetime. However, the volcanic events observed during the eruption, as well as those recorded in the historical and geological records could occur in the future at smaller magnitudes. Ash deposition and earth tremors were the most significant volcanic hazards identified by the entire study population, however, when analyzed by community, local perceptions of threatening events changed. Mudflow and flooding were considered threatening by Toutle residents. The historical record supports their concerns, since much of the property loss and damage in Toutle occurred as a result of these two volcanic events. Forest fires sparked by a volcanic eruption were of greatest concern to Cougar residents. Surrounded largely by forests, the threat of fire is real.

Tourists, like the local residents, seem to have few apprehensions about visiting Mount St. Helens when it is active. Residents' perceptions are that the number of tourists increase dramatically when the mountain is active. Some volcanic events are perceived as being more attractive to tourists than others. In some cases volcanic events identified as hazardous to host communities are perceived as major stimulants for tourism. Lava, mud and even pyroclastic flows were identified as tourism inducing events. Flooding was the only hazard thought to discourage tourists, although once again the perceived magnitude of the threat varied between communities.
An improved understanding of volcanic hazards has arisen since the eruption of Mount St. Helens. Evacuation plans and warning systems have been established and organized to alert and protect residents of "threatened" communities. These plans may be hampered by increasing numbers of tourists and the attractiveness of the volcanic event to the tourist population. Special attention must be given to the potential tourist hazard that could occur in these communities if an emergency evacuation were necessary.
CHAPTER V

RESIDENT PERCEPTIONS AND ATTITUDES TOWARD TOURISM

This chapter examines the data on the respondents' perceptions of tourism activity within their community. The initial part of the chapter analyzes the attitudinal data as an entire population, ranking each item from the questionnaire by their mean score. After the examination of the entire study population, the data is then analyzed by community, identifying any disparity in community perceptions of tourism. Once again, each questionnaire item is ranked by its mean score. Factor analysis is used to identify response variance, and to measure the degree of disparity between communities. Four factor variables were identified as influencing residents perception of tourism. One-way analysis of variance statistics were used to indicate those variables which were significantly different.

Perceptions of Pre- vs. Post Eruption Tourists

As part of the survey residents were asked specific questions about the tourists who visit their community. Residents were asked if they perceived any differences in the tourists who visit their community today in contrast to those who came before the eruption. Those respondents who answered "YES" were asked to identify those characteristics which make the two groups different. Respondents were also asked to estimate how many tourists they felt visited the Mount St. Helens National Volcanic Monument annually. This data was compared against estimates from the national monument to see how closely local perceptions reflected the official record.

During the fact gathering period of this study, many inferences were made toward the change in tourist types and behavior since the May 18th eruption. Since the eruption a
new type of tourist, one with different motives, behavior characteristics and demands, has been frequenting the area. To verify if these perceived changes were generally shared among the entire study population, the questionnaire specifically asked if tourists were any different from those who came before 1980. General consensus was to the affirmative (see Figure 5.1). According to the totals, the largest number of respondents (80%) perceived differences in tourist characteristics, while only 17% did not see any changes. Thus, the inferences identified during the preliminary research appear to hold true across the entire study population; tourists who visit the region today are perceived as having different motives and behavioral characteristics than those of the pre-eruption tourists.

![Figure 5.1. Percentage of respondents believing post-eruption tourists differ from pre-eruption tourists.](Source: Question #6.)

To better understand how the post-eruption tourists were thought to be different from their predecessors, respondents who perceived differences were asked to identify how the two groups differed. This item was the only open-ended question included within the
questionnaire. Their written responses were examined through content analysis, the results of which are presented in Table 5.1. The most predominant difference identified between the two groups was their primary motivation for being in the region. The pre-1980 visitor was mainly interested in the outdoor recreation opportunities of the region, not the presence of a semi-dormant volcano. Fishing, hunting, camping, water skiing, horseback riding, hiking, cross country skiing and snowmobiling were activities easily supported by the natural amenities of the region. People came to the area to escape the demands of their daily lifestyles, to relax and enjoy the 'undisturbed' beauty of Mount St. Helens and the surrounding lakes and forests.

In contrast the people who come to Mount St. Helens today are primarily interested in seeing the volcano and witnessing the destruction it caused. Although most of the previously mentioned recreational activities still exist, the region is now best known for its volcanic resources. For many visitors the region is not a destination but rather an attraction along their travel route. The majority of the visitors spend just a few hours in the area, whereas before they spent days. The quest for a week or two of peace and relaxation has been replaced with a need to witness as much of the devastated area as physically possible within the restricted time frame of a day or less. Fishing poles and rifles have been exchanged for video cameras and binoculars, and buses, passenger vans and other touring vehicles greatly outnumber the campers and trailers on the highway.

Another significant difference between the pre- and post-eruption tourists is their place of origin. The outdoor amenities of the Mount St. Helens region was known to relatively few outside of the Pacific Northwest prior to 1980. Most of the people who recreated here came from the metropolitan areas of Portland, OR/Vancouver, WA and Seattle/Tacoma, WA, as well as from communities along the I-5 corridor. These visitors were regulars, frequenting the region at least once a year. In some cases they became temporary, or seasonal residents constructing second homes in and/or around the small communities near popular lakes and reservoirs.
Table 5.1. Outcome of content analysis of resident response to differences between pre- and post-eruption visitors.

<table>
<thead>
<tr>
<th>Content Analysis Cluster</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Eruption Tourists</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainly hunters, anglers, campers, recreationists, etc.</td>
<td>122</td>
<td>27</td>
</tr>
<tr>
<td>Residents of the Pacific Northwest</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Primarily excursionists</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td><strong>Post-Eruption Tourists</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Come from all over the world.</td>
<td>111</td>
<td>25</td>
</tr>
<tr>
<td>Come to see Mount St. Helens devastation</td>
<td>97</td>
<td>22</td>
</tr>
<tr>
<td>Mainly day-visitors</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Disrespectful/aggressive/rude</td>
<td>27</td>
<td>6</td>
</tr>
<tr>
<td>More tourists</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td>Stay too long</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Destroy physical and cultural environment</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Older than pre-eruption tourists</td>
<td>4</td>
<td>&lt;1</td>
</tr>
<tr>
<td>More affluent</td>
<td>3</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

Perception of Tourist Numbers

The U.S. Forest Service estimates that close to two million people entered the Mount St. Helens National Volcanic Monument in 1991. The great majority of these visitors came during the summer months, from late May to mid-September. When queried about the number of tourists they thought visited each year, respondents believed there to be fewer than Forest Service estimations (see Figure 5.2). Almost two-thirds (63%) of the respondents stated that 1 million or fewer tourists entered the monument, while only 18% believed the tourist population to be somewhere between 1 and 2 million: the selection
which corresponds best with National Forest figures. Only 4% of the respondents perceived there to be more tourists than there actually were in the area each summer.

Figure 5.2. Annual monument visitors as perceived by residents.
(Source: Question #8.)

These responses are rather interesting from a developmental stand point. Studies have found that receptiveness of residents toward tourism is related to the ratio of residents to tourists. (Duffield and Long, 1981; Liu, et. al., 1987) If residents perceive the ratio to be low, that their community has not been overwhelmed with tourists, then attitudes toward tourism and tourism development remain positive. When the tourist population is perceived as being so large that residents feel they have lost power or control over their community, local attitudes tend to intensify in a negative direction. It would appear that residents of the three study communities do not feel overwhelmed by tourists and that a generally positive attitude toward tourism exists.
Resident Attitudes Toward Tourism

Part II of the questionnaire was designed specifically to measure the positive and negative attitudes of residents toward tourism. The twenty-six statements which comprise this section were rated along a five point Likert scale, where 1 = "Strongly Agree" and at the opposite of the spectrum, "Strongly Disagree" = 5. The individual scores for each statement were tallied and a mean score was calculated. The responses were coded in such a way that high total and mean scores were indicative of negative attitudes, while lower item scores indicated positive attitudes toward tourism. The statements, mean scores and percentage agreement with each statement are presented in Table 5.4.

Brief examination of Table 5.4 reveals an overall positive attitude toward tourism. Positive statements regarding the economic and social benefits had lower mean scores and a greater percentage of the population in agreement than did negative statements. The importance of tourism as a generator of income (Question #11) and the educational experience associated with meeting individuals from other places and cultures (Question #23) ranked lowest among the means (2.12 and 2.10) and highest among the percentage of agreement (73% and 71%). Those statements which negatively portrayed the tourist behavior had the lowest percentage of agreement (Questions #14, #22, and #33). It appears from these results that positive attitudes toward tourism persist in the region.
Table 5.2. Mean and percentage agreement with tourism statements.

<table>
<thead>
<tr>
<th>#</th>
<th>Statement</th>
<th>Mean</th>
<th>% Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>More should be done to attract tourists to the area.</td>
<td>2.85</td>
<td>51</td>
</tr>
<tr>
<td>10</td>
<td>Increases in vandalism and other crimes are closely related to increases in the number of tourists.</td>
<td>3.04</td>
<td>37</td>
</tr>
<tr>
<td>11</td>
<td>Tourism is the area's most important generator of income.</td>
<td>2.12</td>
<td>73</td>
</tr>
<tr>
<td>12</td>
<td>Tourists disrupt the everyday way of life in my community.</td>
<td>3.02</td>
<td>46</td>
</tr>
<tr>
<td>13</td>
<td>Greater efforts should be taken by the government to attract tourists to the area.</td>
<td>3.00</td>
<td>42</td>
</tr>
<tr>
<td>14</td>
<td>Tourists are rude and a nuisance to our community.</td>
<td>2.58</td>
<td>20</td>
</tr>
<tr>
<td>15</td>
<td>Greater economic incentives should be offered by the government for increased tourism development.</td>
<td>2.90</td>
<td>44</td>
</tr>
<tr>
<td>16</td>
<td>Tourism has resulted in unpleasantly overcrowded parks, campgrounds and other outdoor places used by local residents.</td>
<td>3.25</td>
<td>48</td>
</tr>
<tr>
<td>17</td>
<td>Tourism is a positive answer to the economic problems resulting from the declining timber industry.</td>
<td>2.41</td>
<td>62</td>
</tr>
<tr>
<td>18</td>
<td>The local residents are the people who really suffer from living in a tourist area.</td>
<td>2.95</td>
<td>37</td>
</tr>
<tr>
<td>19</td>
<td>Tourism has created many employment opportunities for residents of my community.</td>
<td>3.03</td>
<td>53</td>
</tr>
<tr>
<td>20</td>
<td>An increase in tourist numbers may lead to conflicts between tourists and residents.</td>
<td>3.03</td>
<td>37</td>
</tr>
<tr>
<td>21</td>
<td>Because of the international appeal of Mount St. Helens, I have met people from foreign lands.</td>
<td>2.23</td>
<td>67</td>
</tr>
<tr>
<td>22</td>
<td>Tourists are inconsiderate.</td>
<td>2.67</td>
<td>22</td>
</tr>
</tbody>
</table>
Table 5.2 (continued). Mean and percentage agreement with tourism statements.

<table>
<thead>
<tr>
<th>#</th>
<th>Statement</th>
<th>Mean</th>
<th>% Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.</td>
<td>Meeting tourists from all over the world is definitely a valuable educational experience.</td>
<td>2.10</td>
<td>71</td>
</tr>
<tr>
<td>24.</td>
<td>During the tourist season I avoid local recreation areas because they are crowded with tourists.</td>
<td>3.13</td>
<td>49</td>
</tr>
<tr>
<td>25.</td>
<td>Tourism has generated increased pride in the heritage and history of the area.</td>
<td>2.57</td>
<td>53</td>
</tr>
<tr>
<td>26.</td>
<td>Tourism has led to increased vandalism.</td>
<td>2.81</td>
<td>28</td>
</tr>
<tr>
<td>27.</td>
<td>The economic contribution of tourism outweighs its negative social impacts, such as overcrowding, traffic congestion and hooliganism.</td>
<td>2.76</td>
<td>51</td>
</tr>
<tr>
<td>28.</td>
<td>Local recreation areas are overcrowded with tourists during the tourist season.</td>
<td>3.61</td>
<td>63</td>
</tr>
<tr>
<td>29.</td>
<td>Tourism has attracted increased investment and spending in my community.</td>
<td>2.71</td>
<td>46</td>
</tr>
<tr>
<td>30.</td>
<td>Many of my favorite bars, restaurants and other business establishments have been overrun by tourists.</td>
<td>3.12</td>
<td>60</td>
</tr>
<tr>
<td>31.</td>
<td>Tourists are largely responsible for traffic problems in my community.</td>
<td>3.20</td>
<td>36</td>
</tr>
<tr>
<td>32.</td>
<td>The benefits from meeting and interacting with tourists are more important than the social costs created by tourism.</td>
<td>2.94</td>
<td>41</td>
</tr>
<tr>
<td>33.</td>
<td>Tourists are a burden on public services.</td>
<td>2.70</td>
<td>28</td>
</tr>
<tr>
<td>34.</td>
<td>In the long run the eruption of Mount St. Helens was good because it generated public interest and attracted more tourists to the area.</td>
<td>3.03</td>
<td>25</td>
</tr>
</tbody>
</table>
Ranking of Tourism Attitudes by Community

One goal of this study was to examine not only the receptiveness of the Mount St. Helens region to tourism, but the receptiveness of the individual communities to tourism activity. To achieve this objective the results from the attitudinal analysis of the entire study population were broken down into smaller data sets and then ranked by community. The value of ranking the attitudinal scores by community is evident in its ability to identify commonalities in both the positive and negative attitudes.

Analyses of the five highest and lowest ranking items from each community reveals numerous commonalities, as well as some interesting differences (see Tables 5.3 and 5.4). Traffic congestion and overcrowding rank high in all three communities. Community space and highway access is limited by the topography in and around the study communities. When increased vehicle traffic associated with tourism occurs during the summer months competition for space increases. Narrow, two-lane highways, which are more than adequate during the winter months, become congested and hazardous during the tourist season as motor homes, automobiles and log trucks jostle for space. The inherent curiosity of the tourist creates further hazards along the highways as there is always an interest in the uniqueness of the passing landscapes. The sporadic acceleration and deceleration of tourist vehicles is a common grievance among locals.

Unpleasantly overcrowded parks and other recreation areas were also perceived as negative by-products of tourism. Prior to the eruption the parks and recreation areas of the region were the playgrounds primarily of local inhabitants and people within the Pacific Northwest. On weekends and particularly on sunny days during the summertime, recreation areas are crowded with locals and "city folk" from nearby urban centers, but these were temporary surges in visitor numbers, and did not occur at the same magnitude as those witnessed today. Now the parks and recreation areas are full almost everyday during the tourist season, making it impossible for local residents to reserve a favorite campsite or to
conveniently load/unload a boat for a few hours on the lake. Many of the favorite "hangouts" are also perceived as being overrun by tourists.

Table 5.3. Five highest ranking items (negative attitudes) by community.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Rank 1</th>
<th>Rank 2</th>
<th>Rank 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Tourists are largely responsible for traffic problems in my community.</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>28. Local recreation areas are overcrowded with tourists during the tourist season.</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>16. Tourism has resulted in unpleasantly overcrowded parks, campgrounds and other outdoor places used by local residents.</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>10. Increases in vandalism and other crimes are closely related to increases in the number of tourists.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Tourists disrupt the everyday way of life in my community.</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Greater efforts should be taken by the government to attract tourists to the area.</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>19. Tourism has created many employment opportunities for residents of my community.</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>20. An increase in tourist numbers may lead to conflicts between tourists and residents.</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>24. During the tourist season I avoid local recreation areas because they are crowded with tourists.</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>34. In the long run the eruption of Mount St. Helens was good because it generated public interest and attracted more tourists to the area.</td>
<td></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>
Table 5.4. Five lowest ranking items (positive attitudes) by community.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Rank</th>
<th>Randle</th>
<th>Toutle</th>
<th>Cougar</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Tourism is the areas most important generator of income.</td>
<td>26</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Meeting tourists from all over the world is definitely a valuable educational experience.</td>
<td>25</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>21.</td>
<td>Because of the international appeal of Mount St. Helens I have met people from foreign lands.</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>17.</td>
<td>Tourism is a positive answer to the economic problems resulting from the declining timber industry.</td>
<td>22</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>29.</td>
<td>Tourism has attracted increased investment and spending in my community.</td>
<td>21</td>
<td>23</td>
<td>21</td>
</tr>
<tr>
<td>14.</td>
<td>Tourists are rude and a nuisance to our community.</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>Many of my favorite bars, restaurants and other business establishments have been overrun by tourists.</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>34.</td>
<td>In the long run the eruption of Mount St. Helens was good because it generated public interest and attracted more tourists to the area.</td>
<td></td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>

One interesting difference in the negative rankings was the position of Question #34 on Toutle's rank list. This statement identified the eruption of Mount St. Helens as being good for the community because it generated public awareness and interest in the region, implying that it increased tourism to the area. Toutle residents were those most affected by the physical impact of the eruption, many of whom were forced to move in to town or out of the area due to the destruction of their original homes along the Toutle River. Although the wounds have healed, the scars are still sensitive to the losses incurred on May 18th. One resident adamantly responded to the statement by writing in poignant comments, such
as, "you obviously weren't here?" and "people were killed," beneath the statement and along the margins of the questionnaire.

In contrast this same question was ranked among the top five positive impacts of tourism in Cougar and eighth among Randle residents. The hardships were not as great in these communities, the wounds not so deep, as they were Toutle. Tourism has increased in all three communities as a result of the eruption, and although no one has forgotten the tragic losses and physical difficulties of that time, it appears that the economic, and possibly social benefits accrued from the resultant increase, has softened the attitudes of Randle and Cougar residents in regards to the "goodness" of the eruption.

The increased importance of tourism in the local economy was ranked high (lowest mean) among the positive effects of tourism. The timber industry has been in a state of decline for several years, a condition which has great repercussions for those communities with economies strongly dependent upon local mills and logging companies. Tourism was identified by all three communities has a positive response to the declining timber industry. Tourism is filling in the gaps made by slumping timber sales, keeping people employed not only in tourism oriented jobs, but also in non-tourism and other community support businesses. Gas stations, grocery stores, restaurants and fast food establishments are now being supported by tourism, as well as timber dollars. The ash and pumice blasted from the mountain has led to a growing souvenir industry. Vases, figurines, ash trays, and even salt and pepper shakers molded in both pre- and post-eruption images of Mount St. Helens, are produced locally using the ash deposited by the volcano. Bumper stickers, t-shirts, videos and posters were some of the first souvenirs to appear for sale in the region and are still popular among tourists. Souvenir stands dot the highways during the summer months, and almost every commercial businesses has at least a corner of the shop dedicated to Mount St. Helens memorabilia. It is evident that residents are aware of the importance of tourism to their local economy.
In Cougar and Randle tourism was perceived to be the most important generator of income (Question #11), whereas it didn’t even rank among the top ten among Toutle residents. As was mentioned earlier, because Toutle was located along a "dead end" highway and not along a primary excursion route into the monument, tourism was not perceived as the most important generator of income in the community. Tourism may play an important economic role, providing much needed support for a slumping economy, but in Toutle it is not the most important contributor. Since it is not the most important generator of income, Toutle residents are more reluctant to support tourism development than Randle and Cougar residents.

The educational value of resident/tourist interaction also ranked among the most significant positive impacts. The Mount St. Helens story has attracted visitors from around the world who bring with them their attitudes, behavior and cultural norms. Although interaction among tourists and residents is not high, the ranking indicates that invaluable information is acquired from those tourists traveling from countries or regions outside the Pacific Northwest.

Cross-Community Comparisons of Tourism Attitudes

The ranking of questionnaire items was useful in identifying the extremes of agreement and disagreement, but it was unable to denote the degree of differences between the communities. Factor analysis was used to define and examine any correlation patterns among specific variables in the data set. Each statement is grouped with other statements into correlating clusters; they are combined into statistically defined thematic groups. Eigenvalues were used to determine those groups or clusters of greatest significance. Only those clusters with eigenvalues greater than 1.0 are retained for analysis. Once the factor groups have been selected, they are given a name which best represents the thematic content of the statements within the factor group.
Congestion and Overcrowding

This was the largest of the four groups created through factor analysis, and explained the greatest percent of variance in the data. A majority of the residents of the three communities, regardless of employment, age, years of residence, or any other factor, commented on the intense congestion problems experienced within their communities, especially during the summer months. Variance among community responses within the congestion and overcrowding cluster are illustrated in Figure 5.4.

Traffic congestion is most obvious along State Hwy 12 from I-5 into Randle. The highway has two lanes with only a few pull outs where slower moving vehicles are able to move out of the way of faster moving traffic. During the summer months when the tourism and logging industries are at their annual highs, the highway is heavily congested with log and chip trucks, as well as tourist vehicles enroute to Windy Ridge. Tourists, often called "rubberneckers" by the locals, traveling in their motorhomes or pulling trailers
across the attractive yet unfamiliar landscapes of the region, tend to travel at speeds slightly below the posted limits. Their ignorance toward the role of the highway pull-outs, is a major irritant among the local users of the highway, particularly the log and chip truck drivers.

Figure 5.4. Cross-community variance within the "congestion and overcrowding" cluster.

The constant stream of vehicles with no stoplight or traffic signs to regulate the traffic flow is another irritant, particularly for those wishing to cross or enter the highway. Although Randle is probably the best candidate for a stoplight, residents from all three communities believed their community needed some way to break-up the traffic flow. The junction of Highway 12 and Forest Rd. 25 in Randle is often so congested that some residents have reported waiting as long as 30 minutes to cross or enter the highway.

Most of the local businesses do not have the support infrastructure to meet the demands of the tourist season. In Randle parking facilities at the communities two restaurants and only grocery store are more than adequate for their local clientele during the off season. However, from late May to mid-September parking lots overflow with vehicles, often spilling out onto the already congested highways and into residential neighborhoods and private drives.
The absence of public restroom facilities has pushed some tourists into residential areas where they plead with house occupants for access to their bathrooms. This is interpreted as offensive, a nuisance, and even a violation of personal privacy by some residents. In Cougar it has become such a problem that petitions were sent to the county seat in Kelso, requesting funds for the construction of public restrooms along Hwy 503. Rather than construct and subsequently maintain a permanent structure, the county placed four blue, portable latrines along the main highway near popular tourist stops. Although the county solved the restroom problem, Cougar residents are not pleased with the unsightly blue structures in the center of town.

The congestion problems in Cougar are further augmented by the lakes and parks in the area. Much of the boating traffic which existed on Spirit Lake was relocated to the other lakes and reservoirs near Mount St. Helens. Always popular with boaters and anglers prior to the eruption, today the lakes and shorelines are crowded with recreationists. Local residents often avoid the lakes during the summer months and on weekends because of the hassles associated with getting through the congestion along Hwy 503, and then having to wait for extended periods of time to launch their craft from crowded boat ramps.

Although the crowds and increased traffic occur in Toutle, the level of irritation arising from the congestion is not as great as is in the other two communities. At those rare moments when Mount St. Helens was active, the streets of Toutle were filled with volcano watchers. Mount St. Helens has since grown quiet and so has the tourist traffic. Prior to 1980 Toutle catered to the boaters, campers and other recreationists who passed through their community enroute to Spirit Lake. The eruption destroyed the scenic attraction of Spirit Lake, and the mudflow down the Toutle River destroyed numerous segments of the highway. It wasn't until the spring of 1993 that the highway was reopened, thus tourist traffic has actually declined along Hwy 504 over the 13 years since the eruption. Traffic levels are expected to increase significantly as the visitor and interpretive centers become operational along the reopened highway. The new facilities are expected to attract
another million visitors on top of the nearly two million that already visit the monument.

Tourists, who once drove the extra 100+ miles from the visitor center at Silver Lake to Randle and on to Windy Ridge, may now be content with the 60 minute drive along the highway to the new Coldwater Lake visitor center just seven miles from the volcano's crater. Over the next decade a definite shift in tourist flow patterns is expected which will likely lead to changes in Toutle residents' attitudes and perceptions of congestion and overcrowding.

Economic and Government Assistance

The second factor group, Economic and Government Assistance, produced the next largest eigenvalue and accounted for nearly 10% of the variance between communities. Once again the greatest difference exists between Toutle and the other two communities. It would appear from the results of the ANOVA statistic that Toutle residents have a less positive attitude toward the economic benefits experienced by their community as a result of tourism than do the other two communities. The role and responsibility of the government in the development and promotion of tourism is perceived differently on the west side of the volcano than it is to the north or to the south.

The communities of Randle and Cougar have experienced significant growth in their tourism industries since the eruption. Randle has not only benefited from increased tourist dollars, but it has also seen an increase in tourism related businesses, ie., convenience stores, novelty shops, and even a golf course. In a community where most of the population is dependent upon timber, the revenues from tourism have provided the economic sustenance during a time where the harvesting and milling of timber has been sluggish.

Because tourism has become such an important player in the local economies, many residents feel that the government, particularly federal and county agencies, should invest more in developing the local infrastructure to make the area more appealing to tourists, as
well as more capable of supporting tourism development. Wider highways, additional vehicle turnouts, public restrooms, and increased informational and directional signage along the I-5 corridor to inform tourists of local attractions are infrastructure improvements which residents believe would lead to increased revenues and should be provided by the government.

![Bar chart](image)

**Figure 5.5.** Cross community variance within the "economic and government assistance" cluster.

Not every business owner in Randle and Cougar believes that more government assistance is good for their community. Many are concerned with what they perceive to be increasing competition between themselves and government agencies, particularly in the souvenir and memorabilia market. The Forest Service maintains several gift shops at its visitor and information centers, where it provides slides, postcards, guide books and other trinkets and souvenirs for monument visitors. Because they sell many of the same products, local business owners must compete with the Forest Service, who the owners believe have an unfair advantage since tourists perceive them to be the "official" and "true source" of information and memorabilia.
A number of business owners in Randle would like the Forest Service to either quit selling the souvenirs to visitors, or to contract out to local businesses. The Forest Service has contracted with private business and corporations to provide food concessions, as well as videotapes and other souvenirs to be sold at the gift shops within the monument. The problem is that most of the local businesses did not have the financial resources to make themselves competitive in the bidding process, and were simply underbid by larger firms from outside of the Mount St. Helens region. Further assistance in helping local businesses acquire government contracts is desired.

The completion of the Spirit Lake Memorial Highway is also of great concern to residents of these two communities. Millions of federal and state dollars have gone into the construction of this new highway, which many Cougar and Randle residents perceive to be a dead end road that benefits no one, except for the businesses in Toutle. Many believe that development dollars are unequally distributed, most of which going to develop visitor centers and tourist facilities along the western corridor. The small business owners and local residents are apprehensive that once the two visitor centers and other interpretation facilities are operational, tourists will cease coming to their community, choosing to approach the volcano via the Spirit Lake Memorial Highway. How the government plans to assist and support tourism on the south and north sides of the monument is a major concern for these residents.

In contrast to the other two communities, Toutle residents do not perceive their community as having benefited economically from tourism. Instead of seeing an increase in the number of tourist oriented businesses, a number of small stores and a service station have actually gone out of business since the eruption. As was mentioned earlier, tourists have had little motivation to travel up the highway from the Silver Lake Visitor Center, located just five miles west of Toutle, so their tourist dollars are not as apparent.

A large sediment retention dam, constructed by the Corps of Engineers to restrict ash and soils eroded from the slopes of Mount St. Helens from moving down the Toutle River and
into the Cowlitz and Columbia Rivers was once the main attraction at the end of the Spirit Lake Highway. Tourist shops and souvenir stands are scattered along the highway between Toutle and the retention dam. One of the tourist "traps", a restaurant/gift shop in Kid Valley, catered to the needs and hunger pangs of loggers and other Weyerhauser employees based at Camp Baker prior to the eruption. Today, with a blast damaged log truck in front and a welcome sign written in several languages above the door, it is evident that the tiny establishment has an expanded, yet not so loyal clientele. Further up the highway, an A-frame cabin, partially buried by the giant mudflow, has become the new center of attention for a small information/gift shop. At one time this gift shop catered to the tourists curiosity with the legend of Big Foot, which was very much alive in the Mount St. Helens' region prior to the eruption. The gift shop was filled with photographs, casts of Bigfoot footprints, twisted branches, and other evidence of the hairy creature. Today the Bigfoot memorabilia has been pushed into a corner of the store, and a 25 foot tall replica of the hairy creature, left neglected over the past 13 years, is hardly recognizable from the chicken wire and chunks of painted plaster of which it was constructed.

Both of these businesses existed prior to the eruption of Mount St. Helens and have been able to adapt to the new demands of tourists. Toutle has not seen an increase in economic activity within the community since the eruption, rather it has had businesses which either adapted to the new conditions or they have disappeared. These conditions began to change as the completion of Hwy 504, the Spirit Lake Memorial Highway, to Coldwater Lake grew near. A local fast food restaurant which closed a few years after the eruption, reopened in 1992. Signs announcing the future construction of several campgrounds along the new highway have appeared in anticipation of increasing demand for camping facilities along this stretch of highway. On May 15, 1993, almost 13 years after the mountain erupted, the new visitor center at Coldwater Lake opened to the general public. Toutle residents anxiously await the outcome the increased number of tourists will have on their economy and community this season. One would expect their perception of the
economic benefits accrued from tourism to change after a few seasons, now that tourists have a noticeable attraction at the end of Toutle's "dead end" highway.

Although the construction of the new visitor center and restoration of the Spirit Lake Memorial Highway were all made possible from government investment and assistance, interest in further government assistance from Toutle residents is minimal. Residents are somewhat suspicious of government activities in their community.

Reparations projects made by federal, state and county governments along the North Fork of the Toutle River and at other locations in the area, were not considered to be conducted for the betterment of Toutle. Many of the reparation projects were perceived by Toutle residents to be for the benefit of the larger communities downstream to protect them from future volcanic events and further economic hardships, not to improve or protect those living in and around Toutle. Those projects for which assistance has been requested have largely been ignored. Local parks which were favored spots for picnics, swimming and fishing were destroyed by the mudflow and never restored. Toutle residents would have liked to see these parks either restored or replaced. Instead they have seen the money invested in scenic viewpoints and interpretive centers located further up the highway.

Because Toutle has been forced to depend upon its traditional economic base, not becoming overwhelmed by the mass tourist activity experienced in both Cougar and Randle, coupled with a general attitude of distrust toward government assistance, statements regarding economic benefits and government assistance received different responses than from the other two communities. Since the degree of tourist activity and development has not been equally distributed between the three communities, contrast in resident responses would be expected. However, with the predicted shift in the distribution of tourist activity, primarily from the northern to the western monument entrance, future changes in the perception of the economic benefits, as well as the role of the government, are likely to occur.
Community Enhancement

The third cluster, Community Enhancement, explained less than 5% of the response variance. Although the variance in response between the three communities appears to be considerable when graphically presented (see Figure 5.6), statistically the difference was not significant (\( p = .1502 \)). This cluster contained statements suggesting that each community benefited from the notoriety of Mount St. Helens and the cultural exchange between host and tourists. Statements focused primarily upon the socio-cultural enhancements resulting from tourism rather than the economic benefits. With increased development and improvements in the local infrastructure, as well as growing interest in the history of the region, the perceived value and esteem among the local populace rises. The hosts experience their community through the eyes of the tourist, discovering or rediscovering the many elements and characteristics which make their community unique.

Figure 5.6. Cross-community variance within the "community enhancement" cluster.

Once again Toutle appears to be disparate of the other two communities. This difference is a logical one when one considers the relationship between community
enhancement and tourism. As was previously mentioned, tourists often accentuate the unique characteristics of place. They may marvel at the history of a community, the architecture of its buildings, or even the character of the host culture. Residents gain a greater appreciation for many of the cultural and physical characteristics of their community as they observe the value placed upon those characteristics by tourists. If few tourists visit the community, then residents may fail to comprehend the value of their community's character and uniqueness.

Such is the case in Toutle. Toutle has a rich history, and has been at the center of activities oriented towards Mount St. Helens for decades. However, the community was dependent upon the attractions of Spirit Lake and the surrounding camping and lodging facilities. When these tourism resources were destroyed by the eruption, the tourists quit coming and the community turned toward its roots in the timber industry to define its value. Even today when much of the surrounding area is anticipating the increased opportunities resulting from the reopening of the Spirit Lake Memorial Highway and Coldwater Lake Visitor Center, there are many Toutle residents who fail to recognize the tourist value of their community.

On the other hand residents of Cougar are very much aware of the tourist value of their community. Great efforts have been made toward improving its attractiveness. Local businesses have invested in "face-lifts" of their buildings, not only to entice tourists to stop, but also to establish an attractive image of the community. What was at one time a dingy timber camp, is now an attractive, buzzing community. A number of bed and breakfast establishments have opened in and around Cougar since the eruption. Many residents have opened their homes to tourists from countries as distant as Chile and Hungary. One Cougar resident added on to his home, making the new rooms available to foreign tourists, because he appreciated the contacts he had made with tourists from different countries and the educational insights it provided his children. Cougar residents have embraced tourism, identifying it as a positive answer to the current demise of the timber industry.
Tourist Behavior

Although Cougar residents have embraced tourism, identifying it as a key to their economic survival, their attitudes toward the general behavior of their guests is unfavorable. Posting an eigenvalue of just over 1.0, "Tourist Behavior" was the final factor analysis cluster. An examination of Figure 5.7 shows that Cougar residents had a far less favorable opinion than those in the other two communities in regards to the behavior of their guests.

From a tourism perspective, Cougar has an advantage over the other two communities in that Mount St. Helens is not the only tourist attraction. In fact many residents believe it to be a secondary attraction. Cougar's tourism industry, which existed long before the eruption of Mount St. Helens, is focused on recreational activity associated with neighboring reservoirs and the Lewis River. These three reservoirs, Merwin, Yale and Swift, attract tourists/recreationists from all across the Pacific Northwest. Fishing, water-skiing, sailing, and when conditions are right, wind surfing, are popular activities on the reservoirs, along with picnicking and hiking. Many of these activities, primarily water-skiing and wind surfing, are favorites among younger groups, who are often blamed for the noise, drinking, vandalism and other crimes that take place in nearby parks and other areas.

The tourists who visit Randle and Toutle are much less recreation oriented than those in Cougar. These communities host primarily well behaved day-tourists whose vices are generally limited to poor vehicle management and litter. These tourists make few demands upon the local services outside of gas and food consumption needs. However, it is evident from Figure 5.7 that Toutle and Randle residents are not completely satisfied with the behavior of their guests either. Most of their complaints revolve around the driving behavior of the tourists, a topic closely related to the "Congestion and Overcrowding" cluster. Double parking along busy streets or in private driveways is an irritant. Tourist complaints about little inconveniences, such as "my cellular phone won't work here," or
critical comments about the rural nature of the community, fail to endear tourists to their hosts. Although Randle and Toutle residents are often irritated by the actions of tourists in the community, there is still an understanding that come Fall they will all go away, unlike Cougar which boasts a growing winter tourism industry as well.

Figure 5.7. Cross-community variance within the "tourist behavior" cluster.

Summary

The attitudes, behavior and needs of tourists have changed since the eruption of Mount St. Helens. Pre-eruption visitors were largely drawn to the area by the rich recreational resources of the region, as well as their general proximity to nearby urban centers. These tourists were primarily interested in hunting, fishing, camping, boating, or just an opportunity to get away from the hustle and bustle of daily life and escape into the forest. The most loyal of these tourists still come to the area, however the majority of the post-eruption tourists are not as interested in the recreational resources or the beauty of the landscape. Today's tourists come from across the United States and around the world seeking evidence of the disaster and devastation wrought by the eruption of Mount St.
Helens. Little time is spent by tourists relaxing along the lakes and rivers, or strolling through the forests. Tourists venture to Mount St. Helens taking only enough time to eat, take a few photos and purchase a few souvenirs to take home.

After more than a decade of intensive tourism activity, residents still maintain a positive perception of tourism. However, there are some tourism related impacts which are not well received. The increased congestion on local highways is not only an inconvenience to residents, it is considered by some to be another "volcanic hazard". The highways commonly used by tourists are also the primary transportation arteries for the three study communities. During the summer months traffic volume on these routes create aggravating delays, and often make just crossing the highway a difficult and dangerous ordeal. Not only is congestion on the highway irritating, the crowds of tourists in nearby parks, campgrounds and in local bars, restaurants and grocery stores are just as bothersome. Aside from the irritations residents have a clear grasp of tourism's role in the local economies. The tourist attractiveness of the region has resulted in increased investment in and development of local infrastructure and commercial enterprises. The cultural and educational benefits resulting through host-tourist interactions are valued by many residents.

Although the communities cater to the same type of tourists their perceptions and attitudes toward tourism are not the same. What is positively perceived by residents of one community may arouse negative or less appreciative attitudes in another. Cross-community analysis identified significant disparity among resident attitudes toward congestion and overcrowding, economic benefits and government assistance, community enhancement and tourist behavior. Much of the variance is a result of the unequal distribution of tourists among the three study communities. However, attitudes and perceptions can be modified and will likely undergo major changes over the coming decade as travel patterns shift around the monument and communities re-evaluate their role within the Mount St. Helens tourism industry.
A number of residents, particularly in Randle, have organized committees to discuss some of the problems and needs of their community in regards to tourism. Congestion, overcrowding, tourist behavior, revenue and government assistance are topics of major concern within these groups. Interest in future tourism development and in increased involvement in local planning is on the rise. More and more residents are taking interest in what is happening in their community, and desire increased input into the tourism planning and development processes.
CHAPTER VI
SUMMARY AND RECOMMENDATIONS

The purpose of this chapter is to develop a synopsis of the findings from the personal interviews and questionnaire analysis. Based upon this summary of resident perceptions and attitudes, planners, managers and public officials can better prepare for and anticipate potential conflicts between tourism development and local residents. Recommendations toward future tourism development within the three communities are presented based on the research results.

As a generalization of the research it can be stated that no dire problems were perceived by residents. Nonetheless, numerous tourism related irritants were identified. Conflicts between residents and tourists can only increase unless efforts are made to recognize local perceptions and attitudes toward tourism. With an ever-increasing tourist population, increased tension between local residents and public planning and development agencies are inevitable.

Perceptions of Volcanic Hazards and Tourism

Local perceptions of life within the shadow of a once active volcano were unimpassioned, reflecting little trepidation for potential hazards. Few residents believe that an eruption similar to the one of May 18, 1980 will happen again in their lifetime. Some of the volcanic events, such as ash deposition, flooding and mudflows were a cause for concern for many, but actions have been taken to reduce, at least to a degree, the magnitude of the threat. Perceptions of hazard varied from community to community, which was largely a reflection of the geographic location, local topography and the residents past
experience with the hazard. Ash deposition and earth tremors were the predominant hazards identified.

Tourists were perceived as having specific preferences in regards to volcanic events. A notable correlation was identified between what was foreseen as a threat to the community vs. what was attractive to tourists. Lava flows, mudflows and pyroclastic activity, all of which threaten local communities, were perceived as being most attractive to tourists. The only volcanic event thought to discourage tourism was flooding, but there was some disparity among the communities as to how great of a threat it would be to tourists.

The tourist attractiveness of hazards is of concern to emergency personnel charged with organizing and coordinating the evacuation of these communities in the event of a volcanic threat. Tourists and especially their vehicles could significantly hamper a quick and efficient evacuation of threatened communities. This information therefore, is useful in forecasting the "tourist hazard potential" of specific volcanic events.

Variables Influencing Residents' Perceptions and Attitudes

Perhaps the single most important finding from the study is the fact that positive perceptions and attitudes toward tourism prevail among the residents of Randle, Toutle and Cougar. This perception is notable since it provides a baseline from which future monitoring and analysis can be conducted. These positive attitudes and perceptions are a result of two particular variables: the relatively young stage of "mass tourism" development in the study communities following decades of exposure to recreationists before the May 18th eruption of Mount St. Helens. The "mass tourism" environment encountered near Mount St. Helens today began just over a decade ago. The initial development plans for the region have yet to be completed, and the main attraction, the Mount St. Helens National Volcanic Monument, continues to develop its tourism resource base. Although it
has been eleven years since the national monument was created, tourism in the three study communities is still at an early stage of development. Most of the major support facilities, i.e. hotels, transportation companies, restaurants, etc., have appeared along the I-5 corridor, not within the small rural communities nearest the monument. Therefore, tourism development has proceeded slowly and at a lower scale in communities outside of the I-5 corridor. Research findings suggest that low to moderate levels of tourism development are the most beneficial to rural communities, but as levels increase residents' perceptions of tourism rapidly begin to decline (Allen, et. al., 1988). As long as development and tourist numbers have remained at levels below the tolerance capacity of local residents, the tourism environment has remained positive.

The second variable influencing the positive attitudes was the communities' exposure to tourism prior to the 1980 eruption. Before May 18th the region was a popular destination for recreationists and nature lovers from the proximal urban centers of Washington and Oregon. Toutle's exposure to tourists began almost a century ago. Even though their needs and demands differed from those of the post-eruption visitors, many of the local businesses became dependent upon the seasonal influx of recreational visitors. The "mass tourism" witnessed today is much larger and more organized than the tourism of pre-eruption times, but it is still just another form of what has existed for decades. Research findings show that residents perceive the number of tourists visiting Mount St. Helens and their communities to be lower than the actual attendance figures. However, as the tourist population increases, the perceived number of tourists will likewise increase, leading to heightened tensions and potential conflict among residents and their guests.

A notable finding of this study was the correlation between age and positive perceptions. Results of similar studies have found that when age is a significant variable influencing resident perceptions, it is generally a negative influence, meaning that perceptions and attitudes are less supportive of tourism as the population matures. Such was not the case among residents in this study. The older residents, who in most cases have
lived out their entire lives in the study communities, had a more positive opinion of tourism than their younger neighbors. These positive attitudes appear to be based on the perceptions of the maturing population toward the survival of their community. The timber industry has dominated the economies and lifestyles of these communities. In the 1980's the industry was at its peak, but near the end of the 80's and into the early 90's claims of overharvest and the apparent threat to wildlife and several "endangered species," brought the timber industry to a near standstill. The presence of the tourism industry has boosted the economies of these communities during these difficult times, keeping many of the local businesses patronized by residents, as well as tourists, open for business. Tourism has at least for the short-term guaranteed the survival of the community to which the older population holds deep attachment, and for which they are sincerely appreciative.

Overall, residents of the three study communities feel that tourism has provided welcome relief to their local economies at a time when traditional generators of income, namely the timber industry, are passing through sluggish times. Tourism benefits were mostly associated with increased economic investment in local infrastructure and cultural exchange. Millions of dollars have gone into the reconstruction and improvement of highways and other public facilities. The Mount St. Helens National Monument has not only created financial opportunities for many residents, but it has given them the opportunity to meet and learn about the people who tour the monument. Meeting people from outside of the region, particularly from foreign lands, was mentioned time and time again as a major advantage of tourism development in their community.

Negative attitudes and perceptions do exist among the study populations. Tourism is blamed for the congested highways, vehicular accidents and overcrowded parks. During the summer tourist season the highways which function as community lifelines to the outside world also serve as the gateway to Mount St. Helens. Residents and tourists compete for space along the narrow, winding highways. The timber industry, once king in
these communities, is dependent upon the highways for the transfer of logs and timber products from the forests and mills of the region to the markets beyond. Slow-moving and curious tourists have become predominant obstacles to those responsible for transporting timber products. The stress from overcrowding is not only limited to the highway. Popular business establishments, such as bars and restaurants, are often filled with tourists, allowing little room for local patrons.

Tourism and the Study Communities

Albeit they are all part of the same tourist destination, hosting similar tourists with similar tastes, behaviors and demands, and even though they share a similar economic base and cultural heritage, each community in the study responded differently to particular aspects of tourism. Tolerance levels for tourists and tourism development varied from community to community, a function of several factors. The following sections review the individual perceptions of each community and offer a forecast of what the future holds for these communities.

Randle

The eruption of Mount St. Helens and the subsequent development of tourist facilities at Windy Ridge took Randle from the obscurity of being just another southwest Washington timber community to a central hub of Mount St. Helens tourism traffic. Before the May eruption Randle competed with the larger communities of Morton and Packwood in providing services to those automobile tourists visiting Mt. Rainier, or other recreationists coming to the Gifford Pinchot National Forest or to climb Mt. Adams. The destruction of the Spirit Lake Highway put Randle at the gateway to the closest viewpoint open to the general public and accessible by automobile for over a decade.
Today, Randle has become the hub of tourism at the northern entrance to the national monument. Although they must still compete with the larger communities, Randle has seen a definite increase in the number of tourism-oriented businesses. Campgrounds, mini marts, souvenir stands, tourist information center and even a small golf course cater to the thousands of tourists who pass through annually. It is almost impossible to get a room at the Randle Motel during the summer or a RV hook up at the local camper/trailer parks. Tourism has grown to be a major contributor to the economy of this once obscure timber community.

The main transportation artery into Randle, Highway 12 offered simple, and direct access from the I-5 corridor. Due to its convenient access to I-5, as well as the picturesque landscape of tulip farms, dairy farms and forest lined reservoirs through which it passes, this highway gradually became the popular tourist route for those wanting to get a close-up view of the volcano's crater. The increased public use of Highway 12 has led to high levels of congestion during the summer months when both timber harvesting and tourism peak.

The growing numbers of tourist vehicles on the highway is the major irritant among local residents regarding tourism. Residents complain that there are so many tourists on the road that it hampers their ability to do their jobs or to go about their daily business. Tourist ignorance in relation to the use of vehicle pullouts and speed limits aggravate those residents whose living depends upon the timely delivery of goods. Tourists have become the scapegoat for the accidents and delays that occur along this stretch of highway. Complaints about the "rubberneckers" in their motorhomes stopping and starting sporadically as they "gawk" at the passing scenery are commonplace, particularly among those residents who make their living driving the highway.

Demands for a traffic light at the junction of Highway 12 and forest road 20 to regulate the traffic flow and dissipate the congestion downtown have gone unanswered. The need for a traffic light may become obsolete now that the new Spirit Lake Memorial
Highway has been reopened. The new wider highway not only provides a convenient link from I-5 to spectacular views of the volcano, it also offers access to a larger portion of the devastation area. Randle residents who have invested their time and money into tourism-oriented business are now concerned that most of the tourists will travel the new route, and cease to come through their community. This scenario will obviously please those who have been irritated by the overcrowding and congestion, and signs of its materialization are already evident. Now that tourism has become such a prominent factor in a local economy already in trouble as a result of a slumping timber industry, the ramifications of such a scenario could be extreme, and will most expectedly bring further changes to the community of Randle.

Toutle

The opposite scenario could be true for Toutle. Much of Toutle's tourism industry was destroyed when Mount St. Helens erupted. Since the early 1900's the pristine beauty of Spirit Lake and the surrounding forests had attracted thousands of tourists to the area. Located along the only highway to Spirit Lake, Toutle provided goods and services for those tourists, which in turn provided employment and increased investment within the community. When Mount St. Helens erupted the surrounding forests were literally blown into pieces or leveled like match sticks along the hillsides. The lodges and campgrounds along the shores of Spirit Lake were buried beneath a massive landslide, and the once azure waters of the lake were lusterless, full of volcanic debris. Furthermore, highway 504 which had connected Toutle to Mount St. Helens had been almost completely destroyed by the raging mudflows that scoured the channels of the Toutle Rivers north fork, leaving Toutle virtually at the end of a "dead end" highway.

The tourism industry in Toutle all but disappeared. Devastation seeking tourists would come to catch a glimpse at the destruction caused by the mudflow, or to purchase bags of ash, pumice or other volcanic debris from young entrepreneurs along the roadside. For
months after the May 18th eruption the volcano remained active, attracting hundreds of tourists to the area. But once the mountain settled down and grew quiet, the flow of tourists into Toutle was reduced to a trickle.

Local celebrations and fairs commemorating the events and folklore of the eruption attracted a few outsiders. The construction of a visitor center and a silt retention dam improved the tourist attractiveness of the area, but not enough to elevate tourism to pre-eruption levels. A number of tourism-oriented businesses closed their doors during the early years after the eruption, and the local economy strengthened its ties to the timber industry.

The tourism tide changed for the community of Toutle with the announcement of the reconstruction of highway 504. The highway, to be renamed the Spirit Lake Memorial Highway, would be extended eastward from the sediment retention dam to a new visitor center near Coldwater Lake, just 7 miles from the volcano. The highway would cost millions of dollars to construct and would be designed to survive future floods and mudflows.

The construction of the highway has resurrected new hope for many Toutle residents. Old businesses are reopening, and new campgrounds and other facilities are being developed. Real estate and property values nearly at rock bottom after the eruption are beginning to increase along the new highway. There are also those residents who are concerned with what will happened to their community once the highway opens, but the current demise of the timber industry has made even the most reluctant Toutle resident a champion for tourism. In the Spring of 1993 and amidst a media fanfare, the Spirit Lake Memorial Highway and Coldwater Lake visitor center were opened to the general public just in time for the summer tourist season. A number of public and private interpretive centers, equipped with food concessions, souvenirs and rest rooms are already being constructed at picturesque viewpoints, further improving the appeal of the 504 corridor to tourists.

The new highway is expected to become the primary channel for tourists seeking the volcano. Although not viewed as a major irritant in this study, the increase in the
tourist population will most likely affect the attitudes of Toutle residents towards tourism over the coming decades. However, whether their irritation reaches similar levels as those of Randle is yet to be seen. The new highway 504 is much wider than highway 12 and is better capable of handling traffic at greater speeds. However, portions of the pre-existing highway 504 not destroyed by the flooding and mudflows are more restrictive. Efforts are currently underway to widen those segments of the highway, but the increased speed limits may become a significant concern for those living along its shoulders.

**Cougar**

Of the three communities the village of Cougar has experienced the least variation in its tourism industry. A favorite among tourists long before the eruption for its proximity to popular recreational resources, Cougar has developed a retreat-like atmosphere. The local reservoirs and forests have been popular playgrounds for recreationists from nearby urban centers. Cougar is at the hub of a wide span of recreational activities ranging from fishing to wind surfing, sailing to snowmobiling, and from mountain climbing to spelunking. Numerous summer home developments and campgrounds have been constructed along the shores of the reservoirs and river banks.

When Mount St. Helens erupted, destroying most of the existing recreational resources on the northern slopes, most of the recreational activity was transferred to the lakes and reservoirs on the south side of the mountain. Windy Ridge and other popular tourists sites on the eastern edges of the devastation zone are also accessible from Cougar. Nevertheless, the increase in tourism activity was almost immediate. Although to a lesser degree than experienced in Randle, congestion along the main highways, and overcrowding in nearby parks and on the lakes has caused some discontentment among the resident population, but as a whole Cougar residents understand the importance of tourism in sustaining their community.
Cougar residents were quick to take advantage of the geographic circumstance of their situation. One resident, a retired engineer of a regional airplane manufacturing company, created a formula for mixing volcanic ash with a ceramic base. Today, Mount St. Helens Ceramics, headquartered and manufactured in Cougar is world renowned. The tiny little workshop specializes in "ashware", casting ceramics containing ash from famous volcanoes around the globe. The Lone Fir Motel turns away tourists during the summer for lack of available rooms. A number of residents have responded by opening up their homes to tourists. Bed and breakfasts are becoming popular methods of tapping into the growing tourism industry among residents of Cougar.

The increase in recreational visitors in and around Cougar has had an affect on the tolerance levels of local residents. The noise and litter in the parks along the reservoirs, and the careless and oft times inconsiderate behavior of the tourists is a leading cause of resident irritation. The short-stay, automobile tourists who pass through town on their way to Mount St. Helens are preferred by many residents to the recreationists. As a result of this tourist preference, many Cougar residents are concerned, and somewhat jealous, about the restoration of highway 504 through Toutle. Complaints about the unequal distribution of tourism development funds, or of government apathy toward the development needs of their tourism infrastructure are common. A local petition requesting funds from the county for the construction and maintenance of public restrooms, resulted in the delivery of several portable latrines in the center of town. As is the case in Randle, there are concerns about the future of tourism in Cougar now that tourists have a quicker, and possibly more convenient way of seeing the volcano. Cougar's tourism future, as in its past, is unlikely to change. The Mount St. Helens attractions that brought tourists to their side of the mountain continue to survive, and continue to attract tourists.
Recommendations

Future tourism development appears to be inevitable, and in some cases, even desirable within the study communities. Consequently, practical management techniques need to be developed so as to avoid conflicts and to maintain harmony in the community. Considering the attitudes and suggestions of residents, the following recommendations have been formulated to assist tourism planners, developers and managers within the Mount St. Helens National Volcanic Monument, state and county personnel, and other public officials responsible for tourism development within the region.

1. Tourism planners, managers and public officials need to recognize both the positive and negative perceptions and attitudes of residents. They need to be sensitive to the actual, as well as the perceived impacts of tourism on the lifestyles of rural residents. Because tourism impacts extend beyond those items found on a balance sheet, residents' perceptions and attitudes toward tourism are fundamental in providing valuable input to managerial and developmental decisions.

2. Due to the frequency of contact between locals and tourists, residents must be willing to serve as congenial hosts if tourism plans are to be successful. Therefore, comprehensive efforts must be made to ensure opportunities for public involvement in the planning process. Education has a powerful influence on individual perceptions. When tourism impacts upon the physical, social and economic environment are clearly presented and accurately understood, residents tend to be more receptive to proposed development plans, and attitudes toward tourists are often more hospitable. Community representatives should be invited to participate on committees or within meetings where they are able to discuss local impacts and participate in decisions which affect tourism development in their community. Representatives from public agencies should make the effort to attend local meetings and support groups to discuss the costs and benefits associated with tourism.
in the community, as well as to keep abreast of the needs and expectations of local residents.

3. Resident opinion should be incorporated at the outset of the tourism planning process, not after development decisions have been made. Residents are more likely to support proposed development plans when feel they have been involved in its design, rather than having the project forced upon them.

4. Attitudes and perceptions of tourism's impact on community life must be continually assessed. Significant changes will occur in these communities as development continues within the monument. An influx or decline in tourist numbers will be reflected in changes in highway congestion, infrastructure development, revenues and much more. Monitoring resident opinion is necessary in order to assess local sentiments regarding tourism induced changes, thus helping planners focus on what residents consider to be important to their community.

6. The ever increasing tourist presence in the community must be considered within the guidelines of local emergency and evacuation plans. Residents, unlike tourists, have had exposure to evacuation procedures and warning systems. Tourist behavior patterns need to be evaluated to ensure the expedient and safe evacuation of both residents and tourists.

7. Foresighted attention by all agencies and political units should be given to avoid conflict and unfair competition with local businesses. Although the smaller businesses in these communities are not financially or physically capable of competing for larger contracts, the effort should be made to avoid competition for tourist dollars. A review of monument policies regarding the sale of souvenirs and gifts within the visitor centers and other facilities may be warranted to improve the current relationship with local businesses.
8. Now that Mount St. Helens has been developed for tourism, residents would like to see the other "tourism assets" of the region be improved and promoted. Those communities which will lose tourist traffic to the Spirit Lake Memorial Highway corridor are anxious to find a new niche in the regional tourism plan. Increased promotion of the natural resources and recreational opportunities in regional newspapers, magazines and monument literature would further diversify the region's tourism industry, and buoy local economies.
Abler, R.  

Ahmed, S. A.  


Anderson, D.L.  

Ap, J.  

Bailie, J.G.  

Barke, M. and L. A. France  

Bearington, T.  

Beed, T.W.  

Belisle, F.J. and D.R. Hoy  

Berdie, D.R. and J.F. Anderson  

Blake, G.H. and R.I. Lawless  

Boo, E.  

Britton, R.  
Deasy, G.F. and P.R. Griess

deKadt, E.

Dillman, D.A.

Din, K.H.

Dinev, L.

Doxey, G.V.

Duffield, B.S. and J. Long

Eadington, W.R. and M. Redman

Eadington, W.R. and V.L. Smith

Essex, S.J. and R. A. Gibb

Farrell, B.H.

Farrell, B.H. and D. Runyan
Hudman, L.E. and R. H. Jackson

Hughill, P.J.

Hyma, B., A. Ojo and G. Wall

Inskeep, E.L.

Jackle, J.A.

Jackson, R.

Johnston, B.R. (ed.)

Jülg, F.

Kanuk, L. and C. Berenson

Kariel, H. G.

Kendall, K.W. and Turgut Var

Keoggh, B.
Kreck, Lothar

Krippendorf, J.

Lea, J.

Likert, R.

Liu, J.C. and T. Var

Liu, J.C., P.J. Sheldon and T. Var

Lockhart, D.G. and S.E. Ashton

MacCannell, D.

Mathieson, A. and G. Wall

Matley, I.

May, V.J.

McDougal, G.H.G. and H. Munro

McMurray, K.
Mieczkowski, Z. T.  

Milman, A. and A. Pizam  

Mitchell, L. S. and R.V. Smith  

Monk, J. and C. S. Alexander  

Morris, A. and G. Dickson  

Murphy, G. and R. Likert  

Murphy, P.E.  

Murphy, P.E. and R. Bayley  

Murphy, P.E. and L. Rosenblood  

Nash, D.  

Nash, D. and V.L. Smith  
Naylon, J.

Olgivie, F.W.

Oppenheim, A.N.

Ott, R. and D. York (eds.)

Ouma, J.P.M.B.

Pacione, M.

Page, S. and P. Fidgeon

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Pearce, J.A.

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Perdue, R.P., P. T. Long, and L. Allen

Pigram, J.J.

Pizam, A.
Porteous, J.D.

Potter, R.B.

Rafferty, M.

Ritchie, J.R.B. and C.R. Goeldner

Ritchie, J.R.B. and M. M. Lyons

Romansa, G.

Romansa, G. and M. Blenman

Ross, G.F.

Rothman, R.A.

Sethna, R.J. and B.O. Richmond

Seymour, L.

Sheldon, P.J. and T. Var

Smith S.L. J.
Smith, V.L. (ed.)


Smith, V.L. and W.R. Eadington (eds.)

Sorensen, J.H.

Spradley, J.P. and D. McCurdy

Squire, H.J.

Stankey, G.

Taafe, E.J.

Tapppen, J.N.

Teye, V.B.

The Columbian, Inc.

Thomason, P., J.L. Crompton and D.B. Kamp

Turner, L. and J. Ash
Um, Seoho and John Crompton

Var, T., K.W. Kendall and E. Tarakcioglu

Wahnshafft, R.

Wall, G., D. Pudycha and J. Hutchinson

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Wilkinson, P. F.

Williams, A. and W. Zelinsky

Wolfe, R.I.

Zinyama, L.M.
APPENDIX

STUDY QUESTIONNAIRE AND COVER LETTERS

TOURISM and MOUNT ST. HELENS

A Survey of Resident Perceptions and Attitudes

PART I

The following questions relate to Mount St. Helens and the factors that influence and attract tourism to the region.

1. Where was your place of residence when Mount St. Helens erupted on May 18, 1980?

- 376 (71%) RANDLE, COUGAR OR TOUTLE, WA.
- 41 (8%) W/IN 30 MILES OF MOUNT ST HELENS
- 17 (3%) W/IN 50 MILES OF MOUNT ST HELENS
- 18 (3%) W/IN 100 MILES OF MOUNT ST HELENS
- 35 (7%) W/IN PACIFIC NORTHWEST
- 33 (6%) OUTSIDE OF THE PACIFIC NORTHWEST
- 8 (2%) NO RESPONSE

2. What do you feel is the likelihood that another eruption similar to the one experienced on May 18, 1980 will occur again in your lifetime?

- 93 (18%) NO CHANCE [0%]
- 237 (45%) SMALL CHANCE [1/100]
- 83 (16%) MODERATE CHANCE [1/20]
- 95 (18%) 50/50 CHANCE [1/2]
- 13 (2%) CERTAIN [100%]
- 7 (1%) NO RESPONSE

3. How does volcanic activity affect tourist numbers in your community?

- 20 (4%) tourist numbers DECREASE DRAMATICALLY as activity increases
- 27 (5%) tourist numbers SLIGHTLY DECREASE as activity increases
- 76 (14%) tourist numbers remain UNCHANGED
- 136 (26%) tourist numbers SLIGHTLY INCREASE as activity increases
- 248 (47%) tourist numbers INCREASE DRAMATICALLY as activity increases

4. Which of the following volcanic events do you feel may threaten your community over the next 50 years?

<table>
<thead>
<tr>
<th>Event</th>
<th>Yes</th>
<th>Maybe</th>
<th>No</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUDFLOW</td>
<td>64</td>
<td>134</td>
<td>251</td>
<td>72</td>
</tr>
<tr>
<td>ASH FALL</td>
<td>276</td>
<td>156</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>PYROCLASTIC FLOW</td>
<td>11</td>
<td>112</td>
<td>286</td>
<td>99</td>
</tr>
<tr>
<td>EARTH TREMORS</td>
<td>290</td>
<td>147</td>
<td>36</td>
<td>55</td>
</tr>
<tr>
<td>FOREST FIRE</td>
<td>174</td>
<td>195</td>
<td>88</td>
<td>71</td>
</tr>
<tr>
<td>LAVA FLOW</td>
<td>13</td>
<td>85</td>
<td>241</td>
<td>89</td>
</tr>
<tr>
<td>AVALANCHE</td>
<td>22</td>
<td>86</td>
<td>331</td>
<td>89</td>
</tr>
<tr>
<td>FLOOD</td>
<td>150</td>
<td>160</td>
<td>252</td>
<td>68</td>
</tr>
</tbody>
</table>
5. Which of the following volcanic events do you feel would affect tourism in the area?

<table>
<thead>
<tr>
<th>Event</th>
<th>Would encourage tourism</th>
<th>Neutral No affect</th>
<th>Would discourage tourism</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUDFLOW</td>
<td>198 (38%)</td>
<td>115 (22%)</td>
<td>164 (31%)</td>
<td>51 (10%)</td>
</tr>
<tr>
<td>ASHFALL</td>
<td>182 (34%)</td>
<td>91 (17%)</td>
<td>211 (40%)</td>
<td>44 (8%)</td>
</tr>
<tr>
<td>PYROCLASTIC FLOW</td>
<td>187 (35%)</td>
<td>114 (22%)</td>
<td>212 (40%)</td>
<td>62 (12%)</td>
</tr>
<tr>
<td>EARTH TREMORS</td>
<td>75 (14%)</td>
<td>179 (34%)</td>
<td>233 (45%)</td>
<td>60 (11%)</td>
</tr>
<tr>
<td>FOREST FIRE</td>
<td>73 (14%)</td>
<td>102 (19%)</td>
<td>293 (55%)</td>
<td>60 (11%)</td>
</tr>
<tr>
<td>LAVA FLOW</td>
<td>271 (51%)</td>
<td>75 (14%)</td>
<td>130 (25%)</td>
<td>52 (10%)</td>
</tr>
<tr>
<td>AVALANCHE</td>
<td>88 (17%)</td>
<td>162 (32%)</td>
<td>207 (39%)</td>
<td>66 (13%)</td>
</tr>
<tr>
<td>FLOOD</td>
<td>85 (16%)</td>
<td>111 (21%)</td>
<td>276 (52%)</td>
<td>56 (11%)</td>
</tr>
</tbody>
</table>

6. Do you think that tourists who visit the region today are different from those who came before the 1980 eruption?

- 420 (80%) YES
- 90 (17%) NO
- 18 (3%) NO RESPONSE

7. How are today’s tourists different? What makes them different from tourists who came prior to the 1980 eruption?

8. From what you think or have heard, how many tourists visit Mount St. Helens each year?

- 167 (32%) LESS THAN 1 MILLION
- 165 (31%) ABOUT 1 MILLION
- 95 (18%) MORE THAN 1 MILLION BUT LESS THAN 2 MILLION
- 34 (6%) ABOUT 2 MILLION
- 23 (4%) MORE THAN 2 MILLION
- 21 (4%) DON’T KNOW
- 23 (4%) NO RESPONSE
PART II. This section contains 26 statements on tourism and your community. After reading each statement, circle the number (1, 2, 3, 4, 5) which best represents your agreement or disagreement with that statement. (SA = Strongly Agree, A = Agree, NO = No Opinion, D = Disagree, SD = Strongly Disagree, and NR = No Response.)

<table>
<thead>
<tr>
<th></th>
<th>SA</th>
<th>A</th>
<th>NO</th>
<th>D</th>
<th>SD</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>More should be done to attract tourists to the area.</td>
<td>124(23%)</td>
<td>147(31%)</td>
<td>70(13%)</td>
<td>99(19%)</td>
<td>78(15%)</td>
</tr>
<tr>
<td>10</td>
<td>Increases in vandalism and other crimes are closely related to increases in the number of tourists.</td>
<td>76(14%)</td>
<td>117(22%)</td>
<td>83(16%)</td>
<td>200(38%)</td>
<td>47(9%)</td>
</tr>
<tr>
<td>11</td>
<td>Tourism is the area's most important generator of income.</td>
<td>163(31%)</td>
<td>221(42%)</td>
<td>33(6%)</td>
<td>71(13%)</td>
<td>34(6%)</td>
</tr>
<tr>
<td>12</td>
<td>Tourists disrupt the everyday way of life in my community.</td>
<td>92(17%)</td>
<td>153(29%)</td>
<td>61(12%)</td>
<td>172(33%)</td>
<td>47(9%)</td>
</tr>
<tr>
<td>13</td>
<td>Greater efforts should be taken by the government to attract tourists to the area.</td>
<td>91(17%)</td>
<td>131(25%)</td>
<td>88(17%)</td>
<td>125(24%)</td>
<td>85(16%)</td>
</tr>
<tr>
<td>14</td>
<td>Tourists are rude and a nuisance to our community.</td>
<td>41(8%)</td>
<td>63(12%)</td>
<td>87(16%)</td>
<td>234(44%)</td>
<td>95(18%)</td>
</tr>
<tr>
<td>15</td>
<td>Greater economic incentives should be offered by the government for increased tourism development.</td>
<td>87(16%)</td>
<td>149(28%)</td>
<td>100(19%)</td>
<td>111(21%)</td>
<td>75(14%)</td>
</tr>
<tr>
<td>16</td>
<td>Tourism has resulted in unpleasantly overcrowded parks, campgrounds and other outdoor places used by local residents.</td>
<td>113(21%)</td>
<td>144(27%)</td>
<td>74(14%)</td>
<td>160(30%)</td>
<td>32(6%)</td>
</tr>
<tr>
<td>17</td>
<td>Tourism is a positive answer to the economic problems resulting from the declining timber industry.</td>
<td>138(26%)</td>
<td>192(36%)</td>
<td>67(13%)</td>
<td>69(13%)</td>
<td>58(11%)</td>
</tr>
<tr>
<td>18</td>
<td>The local residents are the people who really suffer from living in a tourist area.</td>
<td>77(15%)</td>
<td>118(22%)</td>
<td>78(15%)</td>
<td>187(35%)</td>
<td>55(10%)</td>
</tr>
<tr>
<td>19</td>
<td>Tourism has created many employment opportunities for residents of my community.</td>
<td>47(19%)</td>
<td>177(34%)</td>
<td>64(12%)</td>
<td>181(34%)</td>
<td>55(10%)</td>
</tr>
</tbody>
</table>
20. An increase in tourist numbers may lead to conflicts between tourists and residents.

21. Because of the international appeal of Mount St. Helens I have met people from foreign lands.

22. Tourists are inconsiderate.

23. Meeting tourists from all over the world is definitely a valuable educational experience.

24. During the tourist season I avoid local recreation areas because they are crowded with tourists.

25. Tourism has generated increased pride in the heritage and history of the area.

26. Tourism has led to increased vandalism.

27. The economic contribution of tourism outweighs its negative social impacts, such as overcrowding, traffic congestion and hooliganism.

28. Local recreation areas are overcrowded with tourists during the tourist season.

29. Tourism has attracted increased investment and spending in my community.

30. Many of my favorite bars, restaurants and other business establishments have been overrun by tourists.

31. Tourists are largely responsible for traffic problems in my community.
32. The benefits from meeting and interacting with tourists are more important than the social costs created by tourism.

<table>
<thead>
<tr>
<th>SA</th>
<th>A</th>
<th>NO</th>
<th>D</th>
<th>SD</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>48(9%)</td>
<td>169(32%)</td>
<td>93(18%)</td>
<td>125(24%)</td>
<td>56(11%)</td>
<td>37(7%)</td>
</tr>
</tbody>
</table>

33. Tourists are a burden on public services.

<p>| | | | | | |</p>
<table>
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<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>69(13%)</td>
<td>77(15%)</td>
<td>74(14%)</td>
<td>217(41%)</td>
<td>88(17%)</td>
<td>3(1%)</td>
</tr>
</tbody>
</table>

34. In the long run the eruption of Mount St. Helens was good because it generated public interest and attracted more tourists to the area.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>28(5%)</td>
<td>103(20%)</td>
<td>67(13%)</td>
<td>299(57%)</td>
<td>30(6%)</td>
<td>1(0%)</td>
</tr>
</tbody>
</table>

**PART III** This section contains questions that will be used to better understand you and your community.

35. How long have you lived at your current address?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>LESS THAN 12 MONTHS</td>
</tr>
<tr>
<td>30</td>
<td>1 - 5 YEARS</td>
</tr>
<tr>
<td>65</td>
<td>6 - 10 YEARS</td>
</tr>
<tr>
<td>359</td>
<td>OVER 10 YEARS</td>
</tr>
<tr>
<td>62</td>
<td>NO RESPONSE</td>
</tr>
</tbody>
</table>

36. Are you presently:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>310</td>
<td>EMPLOYED</td>
</tr>
<tr>
<td>23</td>
<td>UNEMPLOYED</td>
</tr>
<tr>
<td>141</td>
<td>RETIRED / DISABLED</td>
</tr>
<tr>
<td>38</td>
<td>FULL-TIME HOMEMAKER</td>
</tr>
<tr>
<td>13</td>
<td>OTHER</td>
</tr>
<tr>
<td>3</td>
<td>NO RESPONSE</td>
</tr>
</tbody>
</table>

37. Please describe your usual occupation. If retired or unemployed, describe the usual occupation when last employed.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>TIMBER INDUSTRY</td>
</tr>
<tr>
<td>44</td>
<td>TOURISM INDUSTRY</td>
</tr>
<tr>
<td>59</td>
<td>GOVERNMENT</td>
</tr>
<tr>
<td>124</td>
<td>OTHER</td>
</tr>
<tr>
<td>106</td>
<td>NO RESPONSE</td>
</tr>
</tbody>
</table>
38. How old were you on your last birthday:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 AND UNDER</td>
<td>3 (1%)</td>
</tr>
<tr>
<td>20 TO 29</td>
<td>29 (5%)</td>
</tr>
<tr>
<td>30 TO 39</td>
<td>120 (23%)</td>
</tr>
<tr>
<td>40 TO 49</td>
<td>125 (24%)</td>
</tr>
<tr>
<td>50 TO 59</td>
<td>78 (15%)</td>
</tr>
<tr>
<td>60 TO 69</td>
<td>86 (16%)</td>
</tr>
<tr>
<td>70 TO 79</td>
<td>56 (11%)</td>
</tr>
<tr>
<td>80 AND ABOVE</td>
<td>11 (2%)</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>20 (4%)</td>
</tr>
</tbody>
</table>

39. What is your sex:

<table>
<thead>
<tr>
<th>Sex</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>318 (60%)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>203 (38%)</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>7 (1%)</td>
</tr>
</tbody>
</table>

40. How many children do you have in each of the following age groups? Write in the number of children you have in each age group. If you have no children in a specific age group, please mark a "0".

<table>
<thead>
<tr>
<th>Number of Children</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO CHILDREN</td>
<td>67 (13%)</td>
</tr>
<tr>
<td>1 OR MORE CHILDREN</td>
<td>446 (84%)</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>15 (3%)</td>
</tr>
</tbody>
</table>

41. What was your approximate net household income from all sources, before taxes, in 1991?

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>LESS THAN 5,000</td>
<td>16 (3%)</td>
</tr>
<tr>
<td>5,000 - 14,999</td>
<td>68 (13%)</td>
</tr>
<tr>
<td>15,000 - 24,999</td>
<td>76 (14%)</td>
</tr>
<tr>
<td>25,000 - 34,999</td>
<td>111 (21%)</td>
</tr>
<tr>
<td>35,000 - 44,999</td>
<td>82 (16%)</td>
</tr>
<tr>
<td>45,000 - 54,999</td>
<td>55 (10%)</td>
</tr>
<tr>
<td>55,000 - 64,999</td>
<td>16 (3%)</td>
</tr>
<tr>
<td>OVER 65,000</td>
<td>28 (5%)</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>76 (14%)</td>
</tr>
</tbody>
</table>

42. What is the highest level of education that you have completed?

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO FORMAL EDUCATION</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>GRADE SCHOOL</td>
<td>11 (2%)</td>
</tr>
<tr>
<td>SOME HIGH SCHOOL</td>
<td>47 (9%)</td>
</tr>
<tr>
<td>COMPLETED HIGH SCHOOL</td>
<td>179 (34%)</td>
</tr>
<tr>
<td>SOME COLLEGE</td>
<td>178 (34%)</td>
</tr>
<tr>
<td>COMPLETED COLLEGE</td>
<td>55 (10%)</td>
</tr>
<tr>
<td>SOME GRADUATE WORK</td>
<td>16 (3%)</td>
</tr>
<tr>
<td>A GRADUATE DEGREE</td>
<td>29 (5%)</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>2 (2%)</td>
</tr>
</tbody>
</table>
Dear Mount St. Helens Neighbor,

Tourism has become a popular tool used by state and county governments to boost the economies in rural areas. With increased tourism activity comes many benefits and costs which could greatly affect the quality of life enjoyed in rural communities like your own. A critical factor in the success of tourism is the support of the local residents living in and/or around the primary tourist attraction. How residents feel about the tourist activity in their community, and how they perceive any changes in their lifestyles because of tourism greatly influences the success of tourism in that community.

Your household is one of several in which residents are being asked how they perceive tourism activity in their community. Your community was chosen because of its "gateway" location to Southwest Washington's most famous tourist attraction, Mount St. Helens. In order that the results will truly represent the thinking of the people in your community, it is important that each questionnaire be completed and returned. We ask that the questionnaire be completed by the head of the household, whether male or female, and returned as soon as possible in the envelope provided.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of the mailing list when your completed questionnaire is returned. Your name will never be placed on the questionnaire. The identification number will also be used in a drawing to be conducted at the end of the survey period for a one night accommodation for two in Lincoln City, Oregon. Only those who return completed questionnaires will be eligible for the drawing.

The results of this research will be made available to state and county officials, departments within the federal government, and all interested citizens. You may receive a summary of the results by writing "copy of results requested" on the back of the return envelope, and printing your name and address below it. Please do not put this information on the questionnaire itself.

I would be most happy to answer any questions you might have pertaining to the questionnaire or this project. Please feel free to write or call. The telephone number is (503) 737-1201.

Thank you for your assistance.

Sincerely,

Randal G. Baker
Project Director
Last week a questionnaire seeking your opinion about tourism and Mount St. Helens was mailed to you. Your name was drawn in a stratified sample of households in SW Washington.

If you have already completed and returned it to us please accept our sincere thanks. If not, please do so today. Because it has been sent to only a small sample of Washington residents it is extremely important that yours also be included in the study if the results are to accurately represent the opinions of your community.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now, collect (503-757-3102) and I will get another one in the mail to you today.

Sincerely,

Randal G. Baker
Project Director
Dear Mount St. Helens Neighbor,

I am writing to you about our study of citizen perceptions and attitudes toward tourism in their community. We have not yet received your completed questionnaire.

The large number of questionnaires returned is very encouraging. But, whether we will be able to describe accurately how residents of your community feel about tourism depends upon you and the others who have not yet responded. This is because our past experiences suggest that those of you who have not yet sent in your questionnaire may have different perceptions toward tourism than those who have already responded.

This is the first study of this type to be conducted in the Mount St. Helens region. therefore, the results are of particular importance to the many citizens, county planners, as well as local and federal policy makers now considering ways to encourage (and for that matter discourage) tourism development in rural communities like yours. The usefulness of our results depends on how accurately we are able to describe what the people of your community think of the local tourism industry.

It is for these reasons that I am sending a replacement questionnaire to you. May I urge you to complete and return it as quickly as possible. I'll be happy to send you a copy of the results if you want one. Simply put your name, address, and "copy of results requested" on the back of the return envelope. We expect to have them ready to send later this Fall.

Your contribution to the success of this study will be appreciated greatly.

Most sincerely,

Randal G. Baker
Project Director