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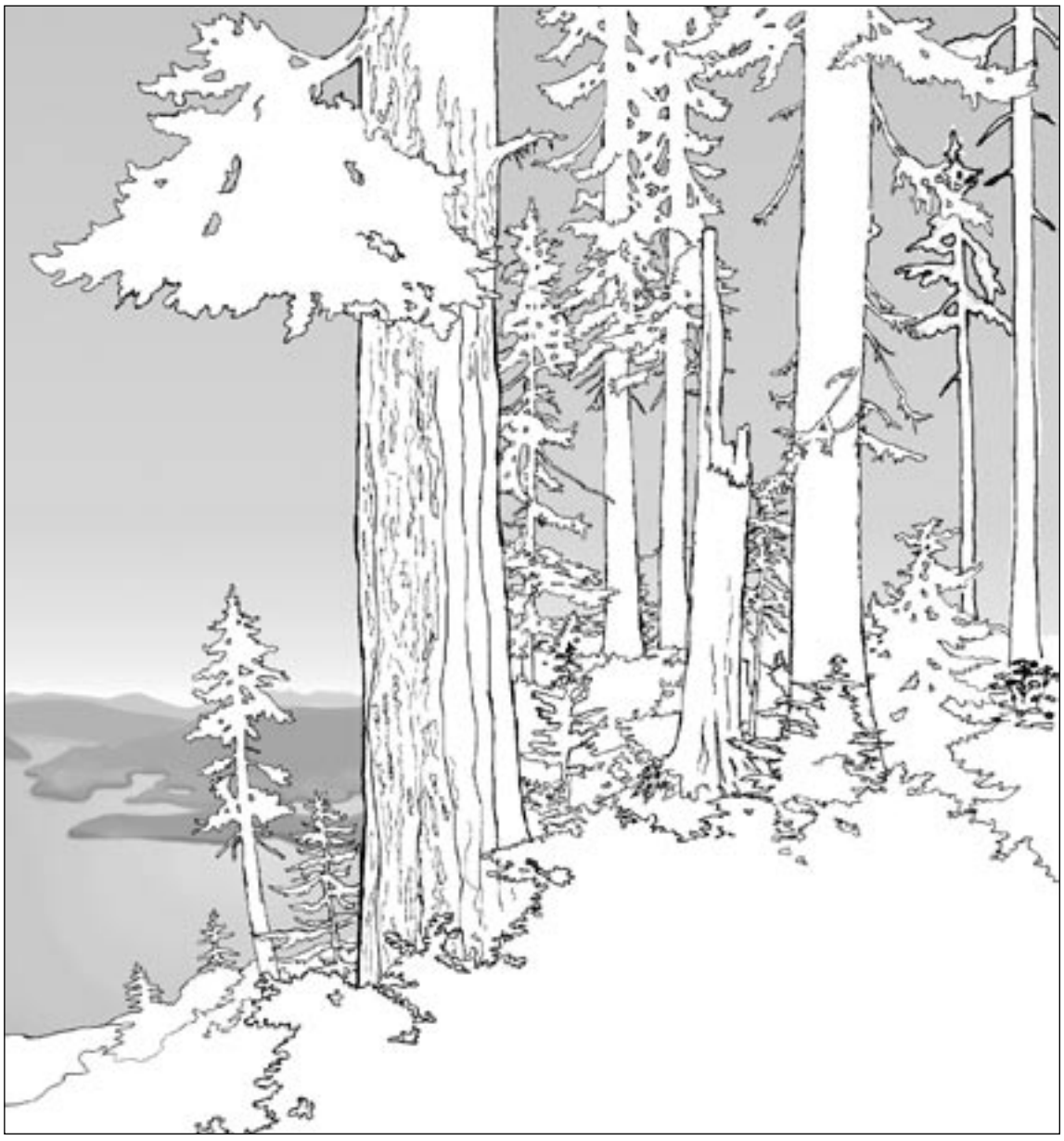
Social Conditions and Trends in Southeast Alaska



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Technical Editors

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Social Conditions and Trends in Southeast Alaska

Rhonda Mazza and Linda E. Kruger, Technical Editors

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Abstract

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In 1997, scientists at the Pacific Northwest Research Station initiated several social science studies in response to information gaps identified while developing the Tongass Land Management Plan. Results presented here summarize findings from studies of demographic trends and tourism trends in the region based on data available through 2002.

Demographic trends suggest that despite having many unique geographic, climatic, and physical characteristics, southeast Alaska exhibits many social conditions and trends similar to those statewide, as well as in the greater United States and nonmetropolitan United States. Much variation exists at the community level, however, when measuring change in population and income in southeast Alaska. In the last decade, tourism has been one of the fastest growing components of Alaska's economy and an important source of export-based income. Natural resource management and use in Alaska will affect and will be affected by trends in tourism growth and activities.

Keywords: Tourism, community change, demographic trends, southeast Alaska, Tongass National Forest.

Contents

Chapter 1: Introduction

Linda E. Kruger and Rhonda Mazza

Since the early 1970s, social science research has addressed issues concerning the nature and distribution of values and uses associated with natural resources. In part, this research has improved our understanding of interconnections between resource management and social and cultural change on the Tongass National Forest in southeast Alaska. Applied social science research fills an important role in informing resource-planning activities. Pacific Northwest Research Station (PNW) scientists initiated social science studies to respond to needs identified during the revision of the Tongass Land Management Plan between 1995 and 1997. These became known as the follow-on studies.

Two social science studies completed as part of the follow-on studies are summarized here. A study of tourism and its effects in three southeast Alaska communities is available in a separate document (Cerveny 2005). An overview of the various social science studies, including work on subsistence, traditional ecological knowledge, and social acceptability of timber harvest practices is available (Kruger 2005) as are economic studies (Crone 2005, Mazza 2004). The two studies presented here focus on tourism and social change. Although much of the data only go through 2002, we think this information is important, and documenting it here will provide a reference point for future work on this topic. Findings from these studies were provided in draft form for managers to use in planning and decisionmaking. The chapters include a discussion of management implications along with suggestions for further study.

At 16.8 million acres (6.8 million hectares), the Tongass National Forest covers about 80 percent of the land base of southeast Alaska and the Inside Passage. Although southeast Alaska is home to only about 73,000 people, approximately 1 million people visit the region each year. The Inside Passage, as it is known, may be the most highly promoted attraction in Alaska. It is certainly one of the most visited areas in the state. Most visitors arrive by boat or airplane. Only 3 of the 33 communities in southeast Alaska, Haines, Hyder, and Skagway, are connected by roads to other parts of the mainland.

As the predominant land manager in the region, the U.S. Forest Service is interested in identifying social and economic trends, realizing that agency decisions have local implications. Because many tourist activities take place on, or within sight of the Tongass National Forest, the way in which natural resources are managed will affect this industry. Additionally, much of the tourism in southeast Alaska can also be classified as recreation, a management objective for national forests articulated in the Multiple-Use Sustained-Yield Act of 1960. Nonresident visitors

and Alaska residents alike spend time hiking, camping, fishing, boating, hunting, and viewing wildlife in the Tongass National Forest. Policy decisions to build infrastructure, such as campgrounds and trails, or to grant permits for activities such as flight-seeing will influence tourism development, and hence, the social economy of southeast Alaska.

The Tongass National Forest contributes to a livelihood and lifestyle for residents of southeast Alaska and provides adventure and solitude for Alaskans and nonresident visitors. Therefore, forest management decisions can have wide-ranging effects on Alaskan residents and visitors. Trees harvested from the Tongass sustained a substantial wood products industry for many years; however, with shifting global markets and mill closures, fishing and seafood processing surpassed timber as the region's largest private industry in 1994 (Allen et al. 1998). However, the recent success of commercial farming of Atlantic salmon in Canada and Chile has resulted in an economic decline in the Alaska salmon industry (Gilbertsen 2003). The state's economic picture is complex, with service growth, export substitution, nonwage income, and government spending driving much of the change. As mentioned above, economic studies are beyond the scope of this publication and are reported separately.

In an area where the economy and resident quality of life are closely tied to the area's natural resources, management of those resources can effect social and economic change. The nature of land management, especially in Alaska, is very political, and thus social and economic change can effect changes in management of the area's natural resources. This is the case in southeast Alaska. The economies of both the region and the state have long been characterized by a cycle of boom and bust in industries based on the extraction of natural resources. Each boom has brought new people, new ideas, and new economic development to the state. The fur trade, mining, timber, and commercial fishing each enjoyed a halcyon period but have since dwindled in economic significance.

In addition to the extensive temperate rain forest and abundant fish and wildlife populations, Alaska's fjords, icefields, glaciers, wild and scenic rivers, and high mountain peaks draw tourists from around the world. Each year, increasing numbers of tourists arrive by cruise ship to experience the cultural and ecological resources of the area. In the 1990s, tourism became the primary growth industry in southeast Alaska, and the numbers of visitors to the state and region continue to increase. For many visitors, Alaska's dramatic and undeveloped landscapes and opportunities to view wildlife are the primary draws to the state. Consequently, tourism is yet another industry in southeast Alaska where management of the local natural resources influences its success.

In the past, as new industry developed in Alaska, it attracted out-of-state workers in that industry, thus increasing the state's resident population. Tourism is different in that the swell of people coming to the state is a seasonal, and in some cases daily, fluctuation of temporary visitors. In 2000, there were an estimated 835,000 visitors to southeast Alaska, while the estimate resident population was 73,000. Tourism affects communities and social groups within communities differentially having both positive and negative effects as described by Cerveny (2005) and Kline later in this publication. A large influx of people such as occurs when cruise ships arrive in a small community can change the sense of place for local residents and change the way they feel about their community. Increased traffic, noise, and even crowding of favorite, out-of-the-way places can impact daily life; however, we know very little about how communities are experiencing these impacts.

During the development of the Tongass National Forest Land and Resource Management Plan, several social science information needs were identified: (1) data on social and economic conditions within southeast Alaska communities, including community character, perceived needs and desires of local residents, and basic social and economic trends; (2) data on subsistence resource patterns, needs, and uses; (3) data on recreation and tourism; and (4) data on the social acceptability of alternatives to clearcut timber harvesting.

The following chapters provide an overview of some of these issues. Chapter 2 examines demographic trends for the region and compares them with statewide and national trends. This information provides a socioeconomic perspective, and the trends that are identified provide context for discussion about the effects of natural resource management decisions on local communities. Chapter 3 analyzes historical trends in tourism and uses them as a basis to project future levels of tourism in southeast Alaska. This information can help natural resource managers plan facilities to accommodate a growing number of visitors and is of interest to individuals wanting to capitalize on this industry. It is also helpful for communities trying to influence growth in their area.

These chapters provide a detailed look at a slice of socioeconomic development in southeast Alaska. Because tourism is the current burgeoning industry, and shows no sign of slackening in the near future, it is the focus of much of the discussion. Although employment in the government sector and unearned income from retirement benefits and investments have become the most significant sources of income in the region (Robertson 2003), the number of visitors tourism brings to the area, the associated infrastructure that may be needed for future growth, and the management decisions that will need to be made make tourism an influential force in southeast Alaska communities.

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Chapter 2: Demographic Trends in Southeast Alaska

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Abstract

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Between 1990 and 2000, population growth in southeast Alaska lagged behind statewide and national growth, but differed significantly across some communities, with many increasing at rates comparable to those of the state and Nation. The ethnic composition of people in southeast Alaska roughly mirrors that of Alaska but has a greater proportion of people reporting as Native than in the United States and the nonmetropolitan United States. The median age of the southeast Alaska population is about equal to that of the Nation. On average, Alaska's population is better educated than that of the Nation, with some regional variation. Income and poverty differs by community. Per capita income in southeast Alaska exceeds that of the Nation, but growth in per capita income between 1990 and 2000 lagged that experienced by the rest of the country. Alaska has ranked first among all states for several years in per capita federal expenditures; in 2000 this was 65 percent higher than the national average. Housing for seasonal, recreational, or occasional use increased in southeast Alaska by more than twice the national average. The death rate for children and teenagers is higher in Alaska than in the Nation, but lower in the southeast region, compared to the state. Fetal alcohol syndrome is more prevalent in Alaska than the greater United States. Crime rates in Alaska during 2000 were comparable to those of the United States and nonmetropolitan United States, but varied by reporting agency in southeast Alaska.

Keywords: Social conditions, demographics, southeast Alaska, Tongass Land Management Plan.

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Introduction

Policymakers and public and private forest managers who largely control resource outputs in forest-dependent rural communities often are held responsible for social changes occurring in those communities (Force and others 1993). However, forest dependency and changes in Forest Service policy and management usually are not the sole determinants, and rarely even the major determinants, of social change. National and international market forces play a significant role in the viability of timber industries in different regions. Local history can significantly alter patterns of forest dependency as communities respond to national business cycles, interest rates, capital and labor markets, international demand, and other factors of the political economy of resources (Force and others 1993, Machlis and others 1990). Also, communities differ in their individual characteristics—they may not rely equally on timber-related activity—and some communities can respond more readily to changing economic conditions. Change is inherent in socioeconomic systems, and occurs at local, regional, national, and international levels.

In this chapter we describe recent social changes occurring in southeast Alaska (economic and policy factors related to those changes are examined in Crone 2004 and Robertson 2004). Alaska's size, geographic isolation, climate, and roadless areas make it unlike any other state (ISER 2002), and these unique features influence the way of life of local residents. However, national and international economic factors also play a role by exerting economic influences that affect the social conditions of residents. In southeast Alaska, the 1990s brought economic changes in the form of reduced timber harvesting on federal and private lands, declines in manufacturing, and increases in service sectors associated with continued expansion of the tourism industry (Crone 2004, Robertson 2004). These changes, brought about by regional, national, and international economic and policy factors, resulted in social changes experienced by local communities. Forest managers can benefit from greater awareness of ongoing changes as they interact with state and local officials and residents in making forest management and policy decisions.

We examine current social conditions and trends in southeast Alaska, and compare these to conditions and trends in Alaska, the entire United States, and the nonmetropolitan United States. Much of the information updates and adds to information presented in the Tongass National Forest Management Plan (U.S. Department of Agriculture, Forest Service 1997) and related reports (for example, Allen and others 1998). We expand on these by examining other social conditions and trends not explicitly covered in those documents, including age and gender, educational attainment, housing, families and children, health, public safety, and quality of life. We also compare social conditions and trends in southeast Alaska

with conditions and trends state- and nationwide. The intent is to augment existing reports by providing a more complete picture of social conditions and trends in southeast Alaska and comparing these changes to those experienced elsewhere. In doing so, the characteristics of social change common to rural southeast Alaska and larger areas of analysis become evident, as do the characteristics that are unique to rural southeast Alaska. Understanding the commonalities and differences shared among these areas of interest is helpful when crafting policy and management decisions at any scale. The chapter concludes with a discussion of suggested areas for future research concerning the social impacts of ongoing economic change in southeast Alaska.

Assessment Approach

Typically, social impact assessments highlight measurable changes in human populations, communities, and social relationships that may result from policy changes (ICGPSIA 1995). Assessments might include population characteristics, community and institutional structures, political and social resources, individual and family changes, and community resources. We examine social conditions and trends in southeast Alaska by identifying and describing several social indicators hypothesized by the World Bank (1994), Machlis and others (1995), Force and Machlis (1997), and Christensen and others (2000), among others. We describe many of these indicators by using U.S. Census Bureau and other secondary data, including demographic and socioeconomic characteristics, income, poverty, housing, families and children, health care, public safety, and quality-of-life measures. Other economic conditions and trends, employment, and subsistence, which often are reported as social indicators, are examined in companion reports (Crone 2004, Robertson 2004).

In general, we report social conditions and trends at the census area (sub-regional) scale, and compare these to conditions and trends state- and nationwide. As reporting units, census areas in Alaska are roughly equivalent to counties in the contiguous United States—Alaska does not have counties. Southeastern Alaska census areas include Haines Borough, City and Borough of Juneau, Ketchikan Gateway Borough, Prince of Wales-Outer Ketchikan, City and Borough of Sitka, Skagway-Hoonah-Angoon, Wrangell-Petersburg, and City and Borough of Yakutat. Reporting conditions and trends for individual census areas avoids potential biases present in regionwide data, which tend to be dominated by the City and Borough of Juneau, the most populous census area.

When appropriate, we also report community-level statistics based on data reported for census places. Reporting on any particular spatial scale may not fully

represent the entire population of rural residents (Donoghue and Haynes 2002). Communities within the same county (or in the case of Alaska, the same census area) may vary widely in their response to natural resource management activities (Force and Machlis 1997). However, the relatively small size of many communities in southeast Alaska limits the potential validity of reporting certain statistics at the community level owing to potential biases imposed by relatively small sample sizes. Many communities in southeast Alaska are so small that relatively minor changes in absolute numbers can produce large changes in percentage basis. For example, small changes from one census to the next in numbers of housing units can produce significant changes in housing vacancy rates in small communities. Education attainment rates can rise dramatically if just a few additional residents of small communities earn high school or college degrees.

In some cases, community-level conditions and trends can reveal variability among communities that is potentially of interest to policymakers. In other cases, however, community-level data reveal few additional insights over those gleaned from data reported at larger census-area scales. Community-level data sometimes can even distract from key trends by highlighting otherwise anomalous community-level trends resulting as much from the small size of many communities and reporting units, as from policy-relevant socioeconomic change.

In our comparison of southeast Alaska social conditions and trends with those nationwide, we highlight data pertaining to the United States as well as nonmetropolitan areas of the United States. Metropolitan areas are defined by the U.S. Bureau of the Census as places with at least 50,000 persons, and a Census Bureau-defined urbanized area has a total population of at least 100,000. Metropolitan areas comprise one or more central counties, as well as outlying counties that have close economic and social ties to the central county (U.S. Department of Commerce, Bureau of the Census 1990). Places located outside metropolitan areas are considered nonmetropolitan. The comparison is not intended to imply that southeast Alaska is similar in every respect to the greater nonmetropolitan United States. However, remoteness from metropolitan areas has been cited as an important deterrent to economic growth (Drabenstott and Smith 1996). Comparing social conditions and trends in southeast Alaska with those of the nonmetropolitan United States acknowledges that similarity.

People

The people of a community or region provide labor, knowledge, and social institutions that are important agents effecting socioeconomic change (Machlis and others

1995). Population growth or decline often parallels changing economic conditions both because they can result from economic change and because they can cause economic change (Christensen and others 2000). Population also can be a useful indicator of community resiliency. For example, small communities of less than 1,500 persons tend to be less resilient than larger communities of greater than 5,000 persons (Donoghue and Haynes 2002, Harris and others 2000). In social assessments, relevant population characteristics often include existing population and changes in population, ethnic and racial diversity, and in- and out-migration of temporary and seasonal residents (ICGPSIA 1995).

Population Change

Population growth in southeast Alaska over the past decade has lagged growth experienced statewide and nationally, but has differed among individual communities, with many communities increasing at rates comparable to state and national rates and others losing population. Southeast Alaska's population was 68,989 in 1990 and 73,082 in 2000, increasing by 5.9 percent over the past decade (table 1). In comparison, Alaska's population grew by 14.0 percent during the same time period while the population of the United States grew by 13.2 percent. Population change for individual southeast Alaska census areas ranged from a 2.1-percent decrease in the Prince of Wales-Outer Ketchikan census area to a 14.8-percent increase in the City and Borough of Juneau (table 1). In 1990, southeast Alaska's population composed 12.5 percent of the total population of Alaska, but this declined to 11.7 percent by 2000. Community-level population change over the past decade varied more significantly, with 14 communities losing population and 18 communities gaining population (table 2). Many communities losing population already were among the smaller communities in southeast Alaska in 1990, averaging 452 persons in 1990, while communities gaining population tended to be among the larger communities, averaging 3,354 persons in 1990.

Ethnicity

The ethnic composition of people in southeast Alaska roughly mirrors that of Alaska but differs from that of the United States and the nonmetropolitan United States, most notably in its greater proportion of people reporting as Native. The ethnic composition of a region describes population diversity and can be an important factor affecting community identity (Christensen and others 2000) as well as cultural values and beliefs (Machlis and others 1995). Ethnicity also can be an important social indicator if certain ethnic groups are disadvantaged in labor markets through high rates of joblessness and through hiring or pay discrimination

Table 1—Population and ethnic composition of southeast Alaska census areas

Census area and year	Population	Change	Ethnic category			
			White	Native	Black	Asian or Pacific Islander
			Percent			
Haines Borough						
1990	2,117		85.8	13.3	0	0.8
2000	2,392	13.0	82.5	11.5	.1	.8
City and Borough of Juneau						
1990	26,751		81.4	13.1	1.1	4.4
2000	30,711	14.8	74.8	11.4	.8	5.1
Ketchikan Gateway Borough						
1990	13,828		82.2	13.8	.4	3.6
2000	14,070	1.8	74.3	15.0	.5	4.5
Prince of Wales–Outer Ketchikan						
1990	6,278		61.7	37.7	.1	.5
2000	6,146	-2.1	53.1	38.7	.1	.4
City and Borough of Sitka						
1990	8,588		74.6	21.0	.5	3.9
2000	8,835	2.9	68.5	18.6	.3	4.2
Skagway-Hoonah-Angoon						
1990	3,680		62.0	37.2	.2	.7
2000	3,436	-6.6	58.1	35.0	.1	.5
Wrangell-Petersburg						
1990	7,042		79.0	19.5	.2	1.3
2000	6,684	-5.1	73.0	16.1	.2	1.7
City and Borough of Yakutat						
1990	705		54.2	44.3	.1	3.2
2000	808	14.6	50.4	39.6	.1	1.9
Southeast Alaska						
1990	68,989		77.5	18.7	.6	3.2
2000	73,082	5.9	71.2	17.1	.5	3.7
Alaska						
1990	550,043		76.5	15.7	4.2	3.7
2000	626,932	14.0	69.3	15.6	3.5	4.5
United States						
1990	248,709,873		80.3	.8	12.1	2.9
2000	281,421,906	13.2	75.1	.9	12.3	3.7
United States–nonmetropolitan						
1990	55,984,132		87.2	1.7	8.7	.8
2000	55,440,227	—[a]	84.8	1.9	8.6	.9

Note: Race figures for 2000 reflect census respondents reporting only one race.
[a] Percentage of change not computed as it is influenced by changes in metropolitan boundaries.
Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

Table 2—Population and Native composition of southeast Alaska communities

Community	1990 population	2000 population	2000 Natives[a]
			Percent
Angoon	638	572	86.4
Coffman Cove	186	199	6.0
Craig	1,260	1,397	30.9
Edna Bay	86	49	4.1
Elfin Cove	57	32	0
Gustavus	258	429	8.2
Haines	1,238	1,811	18.5
Hollis	111	139	9.4
Hoonah	794	860	69.4
Hydaburg	384	382	89.5
Hyder	99	97	4.1
Juneau	26,751	30,711	16.6
Kake	700	710	74.6
Kasaan	54	39	48.7
Ketchikan	8,263	7,922	22.7
Klawock	722	854	58.1
Metlakatla	1,464	1,375	89.7
Meyers Chuck	37	21	9.5
Naukati Bay	93	135	9.6
Pelican	222	163	25.8
Petersburg	3,207	3,224	12.0
Point Baker	39	35	8.6
Port Alexander	119	81	13.6
Port Protection	62	63	11.1
Saxman	369	431	70.1
Sitka	8,588	8,835	24.7
Skagway	692	862	5.1
Tenakee Springs	94	104	4.8
Thorne Bay	569	557	4.8
Whale Pass	75	58	3.4
Wrangell	2,479	2,308	23.8
Yakutat	534	808	46.8

[a] Percentage reporting Native alone or in combination with other race(s).
Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

(Swanson 1996, Christensen and others 2000). In Alaska, the ethnic composition of a region or a community varies substantially.

Natural resources play an important role in Native American culture (Christensen and others 2000). For many Alaska Natives, subsistence harvest of fish, game, and plant material contributes to a way of life and helps maintain a relationship to the land. About 20 percent of the Native and non-Native rural population meet some of their nutritional needs through subsistence harvest of plants, fish, and

wildlife (Wolfe 2000). In addition, natural resources are a major source of investment by many Native corporations in Alaska. Changes in forest management on the Tongass National Forest as well as state and private land could have important implications for Alaska Natives, if those changes affect either the abundance of target species or the degree to which they can be harvested.

The ethnic composition of the population of southeast Alaska in 1990 was predominantly White (77.5 percent), with a large proportion of Native (18.7 percent) and smaller proportions of Black (0.6 percent) and Asian and Pacific Islander (3.2 percent) (table 1). Changes in data-collecting by the Bureau of the Census prevent direct comparisons between the ethnic compositions for 1990 and 2000, because 2000 census respondents were allowed to identify themselves with more than one ethnic category if they desired. However, data suggest that the relative ethnic composition of the southeast Alaska population changed little by 2000, with the largest proportion of persons reporting only one race as White (71.2 percent), a large proportion reporting as Native (17.1 percent), and smaller proportions reporting as Black (0.5 percent) and Asian or Pacific Islander (3.7 percent).

Ethnic compositions of individual census areas within southeast Alaska do differ from each other, particularly in the percentages of residents who report their race as Native or Native in combination with other races (table 1). Community-level data show even more variation among communities in ethic composition; for example, more than 80 percent of the people in Angoon, Hydaburg, and Metlakatla report their race as Native or Native in combination with other races (table 2). There are also communities in the region where less than 5 percent of the population reports their race as Native or Native in combination with other races, including Edna Bay, Elfin Cove, Hyder, Tenakee Springs, Thorne Bay, and Whale Pass.

Age and Gender

U.S. Bureau of the Census data for 2000 indicate that the median age of the southeast Alaska population (35.9 years) is slightly higher than that of Alaska (32.4), roughly equal to that of the United States (35.3), and slightly lower than that of the nonmetropolitan United States (37.2) (table 3). The trend between 1990 and 2000 shows that the median age of the southeast Alaska population has increased by 4.8 years—more than that of Alaska (increase of 3.2 years), the United States (2.4 years), and nonmetropolitan United States (3.3 years). Increases in median ages in some individual southeast Alaska census areas were even higher, such as in Haines Borough (6.5 years), Skagway-Hoonah-Angoon (6.6 years), Wrangell-Petersburg (5.6 years), and City and Borough of Yakutat (6.9 years). The relative aging of the population in southeast Alaska could be due, in part, to the general aging of

Table 3—Age, gender, and educational attainment in southeast Alaska census areas

Census area and year	Median age	Male	Education attainment of persons aged 25+	
			High school or higher	Bachelor's degree or higher
			Percent	
Haines Borough				
1990	34.2	53.2	78.5	17.6
2000	40.7	50.6	88.9	23.8
City and Borough of Juneau				
1990	31.7	50.8	89.9	30.7
2000	35.3	50.4	93.2	36.0
Ketchikan Gateway Borough				
1990	31.5	52.3	85.4	20.2
2000	36.0	51.1	89.6	20.2
Prince of Wales–Outer Ketchikan				
1990	30.2	56.5	77.5	11.4
2000	34.7	54.5	84.1	14.2
City and Borough of Sitka				
1990	30.4	52.5	87.0	21.4
2000	35.2	51.0	90.6	29.5
Skagway-Hoonah-Angoon				
1990	31.2	55.1	79.3	15.8
2000	37.8	53.8	84.4	21.6
Wrangell-Petersburg				
1990	31.6	53.5	81.0	19.8
2000	37.2	52.0	85.8	16.3
City and Borough of Yakutat				
1990	30.3	54.6	*a*	*a*
2000	37.2	59.3	84.3	17.6
Southeast Alaska				
1990	31.1	52.4	85.6	23.3
2000	35.9	51.4	90.1	27.3
Alaska				
1990	29.2	52.7	86.6	23.0
2000	32.4	51.7	88.3	24.7
United States				
1990	32.9	48.7	75.2	20.3
2000	35.3	49.1	84.1	25.6
United States–nonmetropolitan				
1990	33.9	49.0	69.2	12.9
2000	37.2	49.6	76.7	15.4

[a] City and Borough of Yakutat included with Skagway-Hoonah-Angoon for these statistics.

Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

the population nationally, but also could reflect regional socioeconomic changes such as younger workers seeking employment opportunities outside the region or in-migration of retirees.

Alaska's population typically has been composed of greater proportions of males than females. However, U.S. Bureau of the Census data for 2000 indicate the gender composition of Alaska's population has leveled in recent years, and looks more similar to that of the rest of the United States. In southeast Alaska, males composed 51.4 percent of the population in 2000, down from 52.4 percent in 1990 (table 3). From 1990 to 2000, the proportion of males decreased in every southeast Alaska census area, with the exception of City and Borough of Yakutat where the proportion of males increased from 54.6 percent to 59.3 percent of the population. The current composition of males in southeast Alaska (51.4 percent) is relatively close to that of Alaska (51.7 percent), as well as that of the United States (49.1 percent) and the nonmetropolitan United States (49.6 percent).

Education

Education can contribute to economic development by enhancing human capital—the skills and abilities of the workforce. However, the degree of this contribution depends somewhat on the particular needs of labor markets. Education can influence economic development through the expansion of knowledge, but also through changes in social stratification that may redirect talent to different occupations (Galtung 1972). For example, education may constrain economic development in the short run if educational attainment within the labor force is inadequate to meet changing demands of labor markets. On the other hand, if educational attainment exceeds the needs of a particular labor market, members of the labor force who attain higher levels of education may seek out other employment opportunities, either within their community or elsewhere. This can be one factor motivating out-migration in some locations, and can result in lost human capital available to the workforce as well as for civic leadership in regions where out-migration occurs.

On average, Alaska's current population is better educated than that of the United States. In standardized scholastic achievement tests conducted during the 1999–2000 school year, students in Alaska scored above national averages in all three areas tested—mathematics, reading, and language arts (ISER 2002). High school dropout rates in Alaska have been lower than those of the United States throughout the 1990s, a period in which dropout rates in Alaska declined 13 percent. Alaska's high school dropout rate in 1998 was 7 percent versus 9 percent for the United States. The 2000 statewide dropout rate was 6.7 percent, and the rate for southeast Alaska was lower at 5.6 percent (ISER 2002).

Alaska, however, had the lowest rate in the nation of high school graduates going on to college in the 1990s. Of those Alaska high school graduates who do go on to college, the share attending an out-of-state college is larger than that share for any other state (Leask and others 2001). However, in terms of existing education attainment rates of the current adult population, Alaska compares relatively well. In 1990, 86.6 percent of Alaskans over 25 years of age had completed high school or higher, and 23.0 percent had completed a bachelor's degree or higher (table 3). By 2000, this increased to 88.3 percent completing high school or higher, and 24.7 percent completing a bachelor's degree or higher. Both are comparable to averages for the United States (84.1 percent and 25.6 percent) and are notably higher than averages for the nonmetropolitan United States (76.7 percent and 15.4 percent).

U.S. Bureau of the Census data for 2000 indicate that educational attainment in southeast Alaska, on average, is quite close to that of Alaska, but varies by location (table 3). In the region, lower than average completion rates of high school or higher existed in Prince of Wales-Outer Ketchikan (84.1 percent), Skagway-Hoonah-Angoon (84.4 percent), Wrangell-Petersburg (85.8 percent), and City and Borough of Yakutat (84.3 percent), compared to a 90.1 percent completion rate for southeast Alaska. The region had lower than average completion rates of a bachelor's degree or higher in all but City and Borough of Juneau (36.0 percent) and City and Borough of Sitka (29.5 percent), compared to a 27.3-percent completion rate for southeast Alaska. These comparisons have changed little since 1990.

Despite variation by location, all southeast Alaska census areas have attainment rates for high school or higher education equal to or exceeding those for the United States and the nonmetropolitan United States. Most southeast Alaska census areas also have attainment rates for bachelor's degree or higher comparable to or exceeding those of the United States and nonmetropolitan United States. Most notable in 2000, the average attainment rates for bachelor degree's or higher in southeast Alaska is almost double that of the nonmetropolitan United States.

In general, Alaska students are doing well in their studies, scoring above the national averages in mathematics, reading, and language arts as reported above. There is also a low dropout rate. However, the percentage of high school graduates going on to college is lower in Alaska than anywhere else in the Nation. Even so, for residents in the region, the average attainment rate for bachelor's degree or higher is almost double that of the nonmetropolitan United States. This may reflect the large number of government employees located in southeast Alaska. The findings suggest that there are jobs for more highly educated workers, and that these workers are coming from outside Alaska, as Alaska high school students are less likely to go on to college.

Two factors affecting the education potential for Alaskans living in smaller more isolated villages are the relatively high costs of living and high costs of building and maintaining schools (ISER 2002: 1). The remoteness of some communities can cause them to suffer high transportation costs for people, goods, and supplies, and their small size can constrain economies of scale that could lower education costs. Alaska's public schools cost $1.2 billion in 1992–93, including operating and capital spending, or about $10,000 per student (ISER 1995). This spending level was 50 percent above the national average but is comparable to school spending that year in several Northeastern U.S. states (ISER 1995: 4). School funding in 1992–93 was 64 percent state, 22 percent local, and 14 percent federal funds, with the largest federal share ($104 million in 1992–93) annually paid to Alaska's state and local jurisdictions to compensate for tax revenue that cannot be earned from federally owned land (ISER 1995: 2).

Income and Poverty

Changing regional and community economic conditions can significantly impact family economic conditions. Although economic conditions and trends in southeast Alaska are more thoroughly examined in companion reports (Crone 2004, Robertson 2004), two economic factors are examined here—income and poverty—because they can have large impacts on families. Per capita income growth in southeast Alaska, as well as statewide, over the past decade has lagged that experienced by the United States (12.0 percent) and nonmetropolitan United States (15.6 percent), and has even declined in many areas (table 4). The U.S. Bureau of the Census per capita income figures, adjusted for inflation, show income rose in just two southeast Alaska census areas—Haines Borough (1.5 percent) and City and Borough of Sitka (3.7 percent)—and has fallen in all others (table 4). Per capita income for the City and Borough of Juneau was down only slightly (-0.2 percent), possibly reflecting the large number of stable government jobs. Gains in Haines and Sitka may be related to higher numbers of retirees moving into the two areas.

Incomes reported in the 1990 census (adjusted for inflation) showed southeast Alaska per capita income ($24,767) exceeding that of the United States ($19,374) and nonmetropolitan United States ($14,650) by 27.8 percent and 69.1 percent. By the 2000 census, southeast Alaska per capita income ($24,311 per year) exceeded that of the United States ($21,690) and nonmetropolitan United States ($16,932) by 12.1 percent and 43.6 percent (table 4). Despite these relative declines over the past decade, per capita incomes in southeast Alaska census areas continue to be relatively high in comparison to the United States and nonmetropolitan United States.

Table 4—Income and poverty in southeast Alaska census areas

Census area and year	Per capita income[a]	Change in income	People below poverty level	Change in poverty
	1999 dollars		*Percent*	
Haines Borough				
1989	21,771		9.2	
1999	22,090	1.5	10.7	1.5
City and Borough of Juneau				
1989	26,763		5.6	
1999	26,719	-.2	6.0	.4
Ketchikan Gateway Borough				
1989	25,244		4.2	
1999	23,994	-5.0	6.5	2.3
Prince of Wales–Outer Ketchikan				
1989	20,838		9.1	
1999	18,395	-11.7	12.1	3.0
City and Borough of Sitka				
1989	22,789		4.8	
1999	23,622	3.7	7.8	3.0
Skagway-Hoonah-Angoon				
1989	20,775		8.9	
1999	19,974	-3.9	12.8	3.9
Wrangell-Petersburg				
1989	25,544		5.7	
1999	23,494	-8.0	7.9	2.2
City and Borough of Yakutat				
1989	[b]	[b]		
1999	22,576	—	13.5	—
Southeast Alaska				
1989	24,767		5.9	
1999	24,311	-1.8	7.6	1.7
Alaska				
1989	23,660		9.0	
1999	22,660	-4.2	9.4	.4
United States				
1989	19,374		13.1	
1999	21,690	12.0	12.5	-.6
United States–nonmetropolitan				
1989	14,650		16.8	
1999	16,932	15.6	14.6	-2.2

— = not available

[a] Adjusted by using U.S. city average consumer price index for all items.

[b] City and Borough of Yakutat included with Skagway-Hoonah-Angoon for these statistics.

Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

Alaska traditionally has been perceived as having a higher cost of living relative to other places in the United States, and higher incomes need to be considered in this light. However, actual cost-of-living in Alaska relative to the United States tends to vary greatly across different cost-of-living measures and selected expenditure components, such as housing, transportation, and medical care, among others (Fried and Windisch-Cole 2001). These variations along with greater subsistence resource dependence in Alaska and differences in inflation rates, which tend to be lower in Alaska than the rest of the United States, limit conclusive cost-of-living analyses.

Lower and even negative rates of per capita income growth in southeast Alaska are evident in increasing poverty rates among the region's residents over the past decade. The U.S. Bureau of the Census measures poverty by using a set of family income thresholds based on family size and composition. For example, poverty thresholds for 2000 were $8,959 for a one-person family, $11,239 for a two-person family, and $13,738 for a three-person family (U.S. Department of Commerce, Bureau of the Census 2000). These thresholds do not vary geographically and so do not reflect regional differences in costs of living, but are adjusted for inflation. Regionwide poverty rates increased from 5.9 percent of people falling below poverty level in 1990 to 7.6 percent in 2000; in comparison, statewide poverty rates increased from 9.0 to 9.4 percent (table 4). The greatest increases in poverty rates have been in Prince of Wales-Outer Ketchikan (9.1 percent to 12.1 percent), City and Borough of Sitka (4.8 percent to 7.8 percent), and Skagway-Hoohah-Angoon (8.9 percent to 12.8 percent) (table 4).

Although poverty rates increased in Alaska and the southeast region, they fell 0.6 percentage points between 1989 and 1999 in the United States. The percentage of people below poverty level also fell in the nonmetropolitan United States from 16.8 percent in 1989 to 14.6 percent in 1999 (table 4). Although poverty levels have risen in southeast Alaska over the past decade while decreasing nationally, they still generally are lower than those of the Nation. Because poverty thresholds do not consider cost of living, lower than national average poverty rates in southeast Alaska may not necessarily mean that fewer southeast Alaskans live in poverty.

Another factor not accounted for in reported income and poverty data is the degree to which many families successfully augment incomes with subsistence hunting and fishing, which can significantly raise living conditions above those implied by income levels and poverty rates. Many individuals throughout Alaska actively pursue subsistence hunting and fishing as a major source of household income, and do so by choice. Indeed the opportunity to harvest one's own meat, fish, and plant products may be among the major reasons many people move to or continue to live in Alaska. Income and poverty data for southeast Alaska may

not necessarily indicate the degree to which households are satisfied with the current incomes they receive or the number that would self-identify as being in poverty.

Community-level income and poverty data for 1989 and 1999 show that income growth and poverty rates differ substantially from one community to another (table 5). Reported per capita income declined in 19 of 32 southeast Alaska communities over

Table 5—Income and poverty in southeast Alaska communities

	Per capita income		People below poverty level	
Community	**1989**	**1999**	**1989**	**1999**
	- - - - 1999 dollars - - - -		*- - - - Percent - - - -*	
Angoon	14,991	11,357	21.9	27.9
Coffman Cove	27,086	23,249	4.7	4.9
Craig	24,062	20,176	3.9	9.8
Edna Bay	7,716	58,967	63.7	23.1
Elfin Cove	18,366	15,089	7.1	5.6
Gustavus	22,628	21,089	3.6	14.6
Haines	22,558	22,505	4.9	7.9
Hollis	16,203	17,278	15.2	9.3
Hoonah	19,386	16,097	3.8	16.6
Hydaburg	11,557	11,401	26.4	24.1
Hyder	21,311	11,491	14.4	54.1
Juneau	26,763	26,719	5.6	6.0
Kake	17,725	17,411	7.1	14.6
Kasaan	27,922	19,744	0	0
Ketchikan	25,599	22,484	5.5	7.6
Klawock	20,720	14,621	8.4	14.2
Metlakatla	16,745	16,140	10.2	8.0
Meyers Chuck	11,082	31,660	33.3	0
Naukati Bay	30,400	15,949	4.8	9.5
Pelican	20,423	29,347	13.7	4.7
Petersburg	29,750	25,827	4.1	5.0
Point Baker	26,051	12,580	0	4.9
Port Alexander	9,017	14,767	18.2	22.9
Port Protection	10,789	12,057	45.6	57.5
Saxman	14,395	15,642	5.8	12.1
Sitka	22,789	23,622	4.8	7.8
Skagway	23,742	27,700	4.2	3.7
Tenakee Springs	14,708	20,483	10.9	11.8
Thorne Bay	19,738	20,836	5.3	7.8
Whale Pass	16,729	24,041	0	0
Wrangell	22,847	21,851	6.1	9.0
Yakutat	19,342	22,579	10.6	13.5

Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

the past decade, while rising in others. Substantial variation in community-level poverty rates also is evident, with 15 of 32 southeast Alaska communities exceeding the statewide average (9.4 percent), 11 communities exceeding the U.S. average (12.5 percent), and 7 communities exceeding the average for the nonmetropolitan United States (14.6). Conversely, in terms of poverty rates, 17 of 32 communities were better off than the statewide average, 21 were better than the U.S. average, and 25 were equal to or better than the average in the nonmetropolitan United States (table 5).

Federal and Other Supplemental Income Sources

Federal expenditures can be an important economic factor providing significant employment opportunities in locations receiving them. Federal expenditures also can provide an important measure of social conditions by describing levels of federal assistance, such as unemployment, housing assistance, and food stamps. Alaska has ranked first among all states for several years in per capita federal expenditures at $9,496 per person in 2000—65 percent higher than the national average of $5,740 (Fried and Windisch-Cole 2002). In 2002, the expenditures increased to $11,752 per Alaskan (ISER 2003). According to an ISER (2003) report, federal spending supports about one-third of the jobs in the state (96,000 direct and indirect jobs) and has grown at a rate of 4.5 percent annually. Wages, salaries, federal and veterans' retirement benefits, Social Security payments, Medicare, and unemployment insurance benefits make up 41 percent of the federal expenditures.

Among individual southeast Alaska census areas, per capita federal expenditures in 2000 were higher than the statewide average in the City and Borough of Juneau ($16,423) and City and Borough of Sitka ($10,107), reflecting the presence of government offices such as the USDA Forest Service and Coast Guard in these locations. Per capita federal expenditures were above the national average in Haines Borough ($8,816), Wrangell-Petersburg ($8,503), Ketchikan Gateway Borough ($7,084), Skagway-Hoonah-Angoon ($5,972), and Prince of Wales ($5,932), and below the national average only in the City and Borough of Yakutat ($3,066) (Fried and Windisch-Cole 2002).

Much of Alaska's personal income throughout the 1990s has been attributed to increases in federal spending in the state. However, although the federal government remains the largest employer in the state, a significant proportion of federal spending increases over the past decade have not come from increases in traditional federal expenditures, such as the military and civilian workforce. Rather, they have come from increases in retirement disbursements and other direct payments, procurements, and grants. Although these payments can include social security

and federal retirements, Medicare, unemployment, housing assistance, and food stamps, increases in federal grants, most often awarded to state and local governments, universities, and nonprofit organizations have been most dramatic (Fried and Windisch-Cole 2002). While U.S. Senator Ted Stevens has been chair of the Senate Appropriations Committee, per capita federal spending has gone from between 20 to 50 percent higher than the national average to 70 percent above the national average (ISER 2003). Between 1997 and 2002, project grants per capita increased from 225 percent to over 500 percent above the national average. With Senator Stevens stepping down as committee chair of the Appropriations Committee in 2004, the future of continued federal expenditures at these levels is uncertain.

In terms of the percentage of southeast Alaska households directly affected by recent federal expenditures increases, there has been relatively little change over the past decade. The percentage of households receiving social security income, for example, has increased by 1.5 percentage points regionwide, from 13.9 percent in 1989 to 15.4 percent in 1999. Haines Borough (7.3 percentage point change) and Prince of Wales-Outer Ketchikan (5.4 percentage point change), in particular, have experienced significantly greater increases (table 6). Social security includes social security pensions and survivors' benefits and permanent disability insurance payments made by the Social Security Administration (U.S. Department of Commerce, Bureau of the Census 2000). The percentage of households receiving social security statewide increased by 3.0 percentage points, from 10.7 percent to 13.7 percent, but decreased slightly for the United States (-0.6) and the nonmetropolitan United States (-0.4). Despite moderate increases, the percentage of households receiving social security income in southeast Alaska (15.4 percent) in 1999 was well below the national average (25.7 percent) and half the nonmetropolitan United States average (31.1 percent) (table 6).

Trends in public assistance are somewhat more difficult to discern. Public assistance payments generally include cash assistance payments to low-income people, including aid to families with dependent children, temporary assistance to needy families, general assistance, and emergency assistance (U.S. Department of Commerce, Bureau of the Census 2000). Public assistance reported in the 1990 census also includes supplemental security income, including federal, state, and local welfare agency payments to low-income people aged 65 or greater, or people of any age who are blind or disabled (U.S. Department of Commerce, Bureau of the Census 1990). Supplemental security income was reported as a separate line item in the 2000 census. These data show that the percentage of southeast Alaska households receiving supplemental security income in 1999 (2.7 percent) was relatively low, ranging in individual census areas from 1.7 percent in City and Borough of Sitka

Table 6—Households receiving supplemental income sources in southeast Alaska census areas

Census area and year	Households receiving			
	Social security	Supplemental security	Public assistance	Retirement
		Percent		
Haines Borough				
1989	13.5	[a]	11.5[a]	17.9
1999	20.8	4.6	7.3	16.9
City and Borough of Juneau				
1989	11.9	[a]	6.5[a]	16.5
1999	13.1	2.7	5.7	17.0
Ketchikan Gateway Borough				
1989	16.3	[a]	12.4[a]	16.3
1999	16.8	2.8	8.1	15.8
Prince of Wales–Outer Ketchikan				
1989	11.1	[a]	8.1[a]	8.2
1999	16.5	2.4	12.5	9.0
City and Borough of Sitka				
1989	15.1	[a]	9.3[a]	18.9
1999	15.5	1.7	8.4	18.9
Skagway-Hoonah-Angoon				
1989	15.3	[a]	7.9[a]	14.4
1999	17.7	3.5	7.9	13.3
Wrangell-Petersburg				
1989	17.2	[a]	7.9[a]	16.1
1999	19.3	3.3	8.1	14.3
City and Borough of Yakutat				
1989	[b]	[a b]	[b]	[b]
1999	11.7	2.3	10.9	8.6
Southeast Alaska				
1989	13.9	[a]	8.6[a]	15.9
1999	15.4	2.7	7.5	15.8
Alaska				
1989	10.7	[a]	7.9[a]	12.8
1999	13.7	3.1	8.7	14.7
United States				
1989	26.3	[a]	7.5[a]	15.6
1999	25.7	4.4	3.4	16.7
United States–nonmetropolitan				
1989	31.5	[a]	8.7[a]	15.7
1999	31.1	5.4	3.6	17.8

[a] Supplemental security income included with public assistance in 1990 census.
[b] City and Borough of Yakutat included with Skagway-Hoonah-Angoon for these statistics.
Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

to 4.6 percent in Haines Borough (table 6). The percentage of households receiving supplemental security income generally was higher statewide (3.1 percent), nationally (4.4), and in the nonmetropolitan United States (5.4 percent).

Acknowledging that supplemental security income is excluded from public assistance figures reported in the 2000 census, data appear to show relatively modest declines in the percentage of households receiving public assistance in southeast Alaska over the past decade, from 8.6 percent in 1989 to 7.5 percent in 1999 (table 6). This decline was even greater in individual census areas, such as Haines Borough (11.5 percent to 7.3 percent) and Ketchikan Gateway Borough (12.4 percent to 8.1 percent). In only two southeast Alaska census areas did the percentage of households receiving pubic assistance increase—Prince of Wales-Outer Ketchikan (8.1 to 12.5 percent) and Wrangell-Petersburg (7.9 to 8.1 percent). Given that public assistance data for 1999 do not include supplemental security income, near constancy or moderate increases from 1989 to 1999 in the percentage of households receiving public assistance would seem to imply that actual increases were somewhat higher. This is in contrast to the relatively greater decline from 1989 to 1999 in the average percentage of households receiving public assistance in the United States (7.5 percent to 3.4 percent) and nonmetropolitan United States (8.7 percent to 3.6 percent) (table 6).

In Alaska and nationwide, reductions in the percentage of households receiving public assistance likely are due in part to the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, which reduced welfare caseloads considerably (Whitener and others 2001). Although general results of the Act have resulted in greater employment and declining poverty rates (Blank and Haskins 2001, Whitener and others 2001), welfare reform may have been less successful for people living in poverty in rural and nonmetropolitan areas. These areas tend to have higher costs of services, such as child care, transportation, housing, and health care, all of which are necessary for families and individuals to successfully transition from welfare to work (Whitener and others 2001).

Another important and apparently increasing source of income is unearned income associated with retirement disbursements and health benefits. Health services have provided the greatest increases in new employment in the region in recent years (Roberston 2004). The percentage of households receiving retirement income in southeast Alaska in 1999 (15.8 percent) was slightly higher than the statewide average (14.7 percent) and slightly less than averages for the United States (16.7 percent) and the nonmetropolitan United States (17.8 percent) (table 6). Within southeast Alaska, the percentage of households receiving retirement income was highest in City and Borough of Sitka (18.9 percent), followed by City and Borough

of Juneau (17.0 percent) and Haines Borough (16.9 percent). The percentage of households receiving retirement income was lowest in City and Borough of Yakutat (8.6 percent), Prince of Wales–Outer Ketchikan (9.0 percent), and Skagway-Hoonah-Angoon (13.3 percent).

Housing

Housing is a useful social indicator, because it is one of the most important factors affecting the quality of life of individuals and families owing, in part, to its sizable cost relative to other living expenses. Housing costs generally are influenced by market demand for housing and the availability of land for development, both of which influence the numbers of new houses built in communities as well as the prices at which they are sold. In communities that are land-locked by topography and federal land ownership, limited availability of land for development can lead to high land prices and high housing costs relative to communities where developable land is more plentiful. As a social indicator, numbers of housing units reported by the U.S. Bureau of the Census also can indicate new housing construction, which often coincides with economic growth.

Over the past decade, the number of housing units in southeast Alaska increased by 15.8 percent, from 28,085 in 1990 to 32,515 in 2000 (table 7). This increase is larger than that experienced statewide (12.2 percent) and nationally (13.3 percent). Percentage increases in the number of housing units in individual census areas exceeded the national average in all southeast Alaska census areas, with the exception of Skagway-Hoonah-Angoon (0.3 percent) and Wrangell-Petersburg (9.3 percent). Percentage increases were highest in the census areas of Haines Borough (27.6 percent) and Prince of Wales-Outer Ketchikan (20.1 percent). At the same time, owner occupancy rates–one measure of home ownership–also increased throughout southeast Alaska (63.7 percent in 2000), with rates in individual census areas generally comparable to or exceeding those statewide (62.5 percent) and nationally (66.2 percent), but somewhat lagging the nonmetropolitan United States (73.9 percent) (table 7).

Percentage increases in housing units were not matched by percentage increases in households, with households increasing 12.3 percent in southeast Alaska, 17.3 percent statewide, and 14.7 percent nationally (table 7). Percentage increases in household numbers in individual census areas also lagged respective increases in housing units in all but one census area—City and Borough of Juneau (16.6 percent)—with the greatest percentage-point disparity between housing unit increases and household increases in Prince of Wales-Outer Ketchikan (20.1 percent versus 9.8 percent). Greater increases in the number of housing units relative to smaller

Table 7—Housing and households in southeast Alaska census areas

Census area and year	Housing units		Households		
	Number	Change	Number	Change	Owner occupied
		Percent		*Percent*	
Haines Borough					
1990	1,112		791		65.0
2000	1,419	27.6	991	25.3	70.0
City and Borough of Juneau					
1990	10,638		9,902		58.2
2000	12,282	15.5	11,543	16.6	63.7
Ketchikan Gateway Borough					
1990	5,463		5,030		56.0
2000	6,218	13.8	5,399	7.3	60.7
Prince of Wales–Outer Ketchikan					
1990	2,543		2,061		60.5
2000	3,055	20.1	2,262	9.8	69.8
City and Borough of Sitka					
1990	3,222		2,939		55.9
2000	3,650	13.3	3,278	11.5	58.1
Skagway-Hoonah-Angoon					
1990	2,102		1,422		54.2
2000	2,108	.3	1,369	-3.7	62.4
Wrangell-Petersburg					
1990	3,005		2,514		66.7
2000	3,284	9.3	2,587	2.9	70.4
City and Borough of Yakutat					
1990	*a*		*a*	*a*	*a*
2000	499	—	265	—	59.6
Southeast Alaska					
1990	28,085		24,659		58.5
2000	32,515	15.8	27,694	12.3	63.7
Alaska					
1990	232,608		188,915		56.1
2000	260,978	12.2	221,600	17.3	62.5
United States					
1990	102,263,678		91,947,410		64.2
2000	115,904,641	13.3	105,480,101	14.7	66.2
United States–nonmetropolitan					
1990	24,619,365		20,682,146		72.4
2000	25,091,681	—[b]	21,175,216	—[b]	73.9

— = not available

[a] City and Borough of Yakutat included with Skagway-Hoonah-Angoon for these statistics.

[b] Percentage of change not computed as it is influenced by changes in metropolitan boundaries.

Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

increases in the number of households have contributed to increased vacancy rates in southeast Alaska over the past decade. Housing vacancy can indicate excess housing supply when the number of housing units available for sale or rent exceeds the number of buyers or renters willing to buy and occupy them. High vacancy rates can be one characteristic of economic distress in communities if, for example, significant numbers of workers moved to other locations to find work. However, high vacancy rates (as evident in U.S. census data) also can indicate a prevalence of housing for seasonal, recreational, or occasional use, which has been an enduring characteristic of housing data in southeast Alaska.

Vacant housing units are defined for census purposes as those for rent or sale, rented or sold but not yet occupied, those for seasonal, recreational, or occasional use, those for migrant workers, and other vacant units (U.S. Department of Commerce, Bureau of the Census 1990). Vacant units identified for seasonal, recreational, or occasional uses are those housing units intended for use only in certain seasons or for weekend or other occasional use throughout the year, occupied by persons whose usual place of residence is elsewhere (U.S. Department of Commerce, Bureau of the Census 1990). They can include housing units used solely for leisure, as second homes by retirees or vacationers, for example. They also can include housing units used for subsistence hunting, fishing, and plant gathering, as well as for temporary employment, such as logging. High housing vacancy rates may indicate excess housing supply, or simply the prevalence of housing for seasonal, recreational, or occasional uses. Discerning this difference depends on the degree to which seasonal, recreational, or occasional uses contribute to overall vacancy rates.

The percentage of vacant housing units in southeast Alaska increased from 12.2 percent in 1990 to 14.0 percent in 2000, during which time vacancy rates declined from 18.8 to 15.1 percent statewide, and from 10.1 to 9.0 percent nationally (table 8). The greatest percentage point gains in vacancy rates occurred in those census areas with the greatest disparity between housing unit increases and household increases, including Ketchikan Gateway Borough (7.9 to 13.2 percent), Prince of Wales-Outer Ketchikan (19.0 to 26.0 percent), and Wrangell-Petersburg (16.3 to 21.2 percent). In comparison, vacancy rates increased in the nonmetropolitan United States from 16.0 to 17.6 percent, or 1.6 percentage points (table 8).

Housing vacancy owing to seasonal, recreational, or occasional use averaged 6.7 percent in southeast Alaska in 2000—more than twice the national average (3.1 percent)—consistent with the history of seasonal, recreational, and occasional uses in the region (table 8). However, vacancy owing to seasonal, recreational, or occasional uses in southeast Alaska lagged the statewide average (8.2 percent) as well

Table 8—Housing vacancy and seasonal, recreational, or occasional use in southeast Alaska census areas

Census area and year	Housing units		Seasonal, recreational or occasional use	
	Vacant	Change in vacancy	Use	Change
	Percent			
Haines Borough				
1990	28.9		18.5	
2000	30.2	1.3	21.2	2.7
City and Borough of Juneau				
1990	6.9		2.3	
2000	6.0	-.9	1.5	-.8
Ketchikan Gateway Borough				
1990	7.9		2.7	
2000	13.2	5.2	3.9	1.2
Prince of Wales–Outer Ketchikan				
1990	19.0		7.0	
2000	26.0	7.0	10.5	3.5
City and Borough of Sitka				
1990	8.8		2.7	
2000	10.2	1.4	4.6	1.9
Skagway-Hoonah-Angoon				
1990	32.4		23.4	
2000	35.1	2.7	22.3	-1.0
Wrangell-Petersburg				
1990	16.3		7.7	
2000	21.2	4.9	9.9	2.2
City and Borough of Yakutat				
1990	*a*		*a*	
2000	46.9	—	35.7	—
Southeast Alaska				
1990	12.2		5.6	
2000	14.0	2.6	6.7	1.1
Alaska				
1990	18.8		7.3	
2000	15.1	-3.7	8.2	.9
United States				
1990	10.1		3.0	
2000	9.0	-1.1	3.1	.1
United States–nonmetropolitan				
1990	16.0		7.6	
2000	17.6	1.6	7.7	.1

— = not available.
[a] City and Borough of Yakutat included with Skagway-Hoonah-Angoon for these statistics.
Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

as the nonmetropolitan U.S. average (7.7 percent). The highest vacancy rates owing to seasonal, recreational, or occasional uses in southeast Alaska in 2000 occurred in Haines Borough (21.2 percent), Skagway-Hoonah-Angoon (22.3 percent), and City and Borough of Yakutat (35.7 percent).

Percentage-point gains in vacancy rates in southeast Alaska over the past decade are not fully accounted for by comparable gains in seasonal, recreational, or occasional housing uses. Haines Borough and City and Borough of Sitka were the only census areas where percentage point gains in housing vacancy rates owing to seasonal, recreational, or occasional uses in individual census areas from 1990 to 2000 exceeded percentage point gains in vacancy. In all other census areas, gains in vacancy owing to seasonal, recreational, or occasional use lagged gains in housing vacancy (table 8).

Housing vacancy rates for individual communities tended to increase from 1990 to 2000 in most communities, with the most significant percentage-point increases in Coffman Cove (26.5), Edna Bay (38.7), Kasaan (19.7), Meyers Chuck (19.5), Point Baker (18.5), Port Alexander (17.9), Thorne Bay (16.9), Whale Pass (26.9), and Yakutat (39.5) (table 9). In 1990, 13 of 32 communities had vacancy rates exceeding the statewide average (18.8 percent), and 6 of those communities had vacancy rates more than double the statewide average. By 2000, 21 of 32 communities had vacancy rates exceeding the statewide average (15.1 percent), and 15 of those communities had vacancy rates more than double the statewide average.

Housing vacancy owing to seasonal, recreational, or occasional use also is prevalent at the community level (table 9). In 1990, 11 communities had seasonal, recreational, or occasional use vacancy rates exceeding the statewide average (7.3 percent), and 8 of those communities had rates exceeding double the statewide average. By 2000, 16 communities had seasonal, recreational or occasional use vacancy rates exceeding the statewide average (8.2 percent), and 9 of those communities had rates exceeding double the statewide average.

Families and Children

Family characteristics influence the daily life of individuals and families (ICGPSIA 1995), and as such can be useful social indicators. Statewide, Alaska's marriage rate for 1999 equaled that in the United States, at 8.3 marriages per 1,000 residents (table 10). Marriage rates throughout southeast Alaska were roughly comparable, though with slightly higher marriage rates in City and Borough of Juneau (11.9) and Skagway-Hoonah-Angoon (11.0), and lower marriage rates in Prince of Wales-Outer Ketchikan (6.5) and Wrangell-Petersburg (6.9). Locations that are popular tourist destinations may have higher marriage rates because they often are popular

Table 9—Housing vacancy and seasonal, recreational or occasional use in southeast Alaska communities

	Housing vacancy		Seasonal, recreational, or occasional use	
Community	**1990**	**2000**	**1990**	**2000**
		Percent		
Angoon	6.0	16.7	3.0	11.3
Coffman Cove	9.9	36.4	1.2	11.1
Craig	11.9	9.8	3.6	1.9
Edna Bay	13.8	52.5	10.3	22.5
Elfin Cove	47.7	57.1	45.4	28.6
Gustavus	53.7	42.3	51.4	17.4
Haines	9.7	16.0	1.7	5.2
Hollis	39.4	42.1	36.6	13.7
Hoonah	9.7	13.8	1.9	2.9
Hydaburg	12.6	13.6	1.5	2.6
Hyder	22.4	34.7	15.5	29.2
Juneau	6.9	6.0	2.3	1.5
Kake	17.0	14.6	0	4.2
Kasaan	36.7	56.4	3.3	17.9
Ketchikan	5.8	12.3	.8	1.8
Klawock	14.2	14.9	.7	1.6
Metlakatla	15.0	11.7	1.9	2.1
Meyers Chuck	61.8	81.3	47.1	81.2
Naukati Bay	12.2	23.1	4.9	0
Pelican	17.3	25.5	1.0	9.6
Petersburg	7.1	9.3	.6	1.8
Point Baker	25.0	43.5	14.3	0.0
Port Alexander	39.1	57.0	26.6	25.3
Port Protection	27.5	40.4	2.5	3.8
Saxman	5.7	13.0	0	.7
Sitka	8.8	10.2	2.7	4.6
Skagway	29.5	20.1	12.9	9.4
Tenakee Springs	63.3	59.0	60.4	54.9
Thorne Bay	16.1	33.0	3.0	13.1
Whale Pass	30.0	56.9	15.0	11.8
Wrangell	10.6	16.9	2.6	1.0
Yakutat	7.4	46.9	3.2	35.7

Source: U.S. Department of Commerce, Bureau of the Census (1990, 2000).

locations to get married (Alaska Bureau of Vital Statistics 2000). Alaska had 5.1 divorces per 1,000 residents in 1999 (Alaska Bureau of Vital Statistics 2000)– slightly higher than the national average (4.2). Although statewide divorce rates in 1999 were relatively unchanged from 1995, divorce rates in southeast Alaska

Table 10—Marriage and divorce in southeast Alaska census areas, 1995 and 1999

	Marriages per 1,000 residents		Divorces per 1,000 residents			
			Women		Men	
Census area and year	1995	1999	1995	1999	1995	1999
Haines Borough	9.6	9.7	10.7	12.6	4.2	6.2
City and Borough of Juneau	11.8	11.9	12.3	6.9	11.3	6.2
Ketchikan Gateway Borough	12.7	10.9	13.2	11.6	9.7	9.4
Prince of Wales-Outer Ketchikan	6.7	6.5	9.9	9.7	7.2	9.2
City and Borough of Sitka	9.6	9.4	10.2	6.8	9.0	5.9
Skagway-Hoonah-Angoon	11.0	11.0	6.9	6.2	8.5	5.7
Wrangell-Petersburg	9.3	6.9	11.6	9.0	10.4	6.9
City and Borough of Yakutat	3.9	9.6	–	9.3	–	4.9
Southeast Alaska	10.8	10.3	11.5	8.4	9.8	7.1
Alaska	9.1	8.8	9.4	9.0	8.2	8.1
United States	8.8[a]	8.3	4.4[a b]	4.2[b]	4.4[a b]	4.2[b]

[a] Data for 1996.
[b] Includes both women and men and are not directly comparable to those reported exclusively for women or men.
Source: Alaska Bureau of Vital Statistics (1996, 2000); National Center for Health Statistics (1998, 2001).

generally have fallen among both women and men. The divorce rate for women fell from 11.5 per 1,000 in 1995 to 8.4 in 1999; for men the divorce rate fell from 9.8 to 7.1 per 1,000 during the same period (table 10). Note that divorce rates reported for both men and women together are not directly comparable to divorce rates reported for men and women separately.

Statewide, the percentage of single-parent families in Alaska (27 percent) is equal to that of the United States (ISER 2002). Children who grow up with one parent often lack economic and social support equivalent to two-person households (ISER 2002: 29). Statewide, the percentage of children with no parent working full-time (29 percent) is slightly greater than that of the national average (26 percent). In Alaska, however, this indicator may overstate the likelihood of families falling below poverty levels; many families, particularly in rural areas, may successfully combine seasonal work with harvests of fish and game to provide income that is nearly equivalent to that provided by a full-time working parent (ISER 2002: 29). Also, poverty must be evaluated in combination with deliberate lifestyle choices, which can be somewhat unique in Alaska.

A smaller percentage of children live in poverty in Alaska than in the United States (16 percent versus 20 percent (ISER 2002). Children whose parents rely on public assistance, including temporary assistance, Medicaid, and food stamps, can also be considered as living in poverty (ISER 2002: 27). Statewide 20 percent of Alaska school children lived in families that received public assistance during the 1999-2000 school year. Public assistance rates in southeast Alaska tended to be about equal to or lower than those statewide for most school districts, including Chatham (20 percent), Craig (16 percent), Hoonah (15 percent), Juneau (13 percent), Ketchikan Gateway (14 percent), Klawock (21 percent), Pelican (22 percent), Petersburg (15 percent), Sitka (11 percent), Skagway (2 percent), Southeast Island (20 percent), Wrangell (22 percent), and Yakutat (16 percent). Only in Annette Island (33 percent), Haines (25 percent), Kake (30 percent), and Hydaburg (37 percent) school districts were public assistance rates substantially higher than the statewide average, and none approached the higher rates in some northern Alaska school districts ranging from 40 to 62 percent (ISER 2002).

Alaska has had among the highest child fatality rates in the Nation—30 per 100,000 in 1998 compared to 24 per 100,000 for the United States (ISER 2002). Child death rates in southeast Alaska have tended to be lower, averaging 27 per 100,000 from 1995 to 1999 versus 33 per 100,000 for the state. The teen violent death rate in Alaska (74 per 100,000 children) also is higher than the national average (54 per 100,000 children in 1998), but again this rate is lower in southeast Alaska than statewide. Nearly half of violent teenage deaths in Alaska are from homicide and suicide, and of these, suicide is three times more likely (ISER 2002). Teen suicide rates in Alaska (1990–1999) were relatively high at 36 per 100,000 teens (15 to 19), and were highest among Alaska Natives, males, and teens in the northern region (208 per 100,000 teens). Teen suicide rates were relatively low in the Gulf Coast/Southeast region at 25 per 100,000 teens (ISER 2002).

Health

Health care is an important social institution that includes a range of organizations and activities dealing with health needs of people (Machlis and others 1995). Many factors complicate health care in Alaska, most notably the geographic isolation of many small villages, which can limit access to adequate medical care (ISER 2002). In rural communities, relatively small changes in the institutions providing health care, such as a doctor's retirement or a pharmacy's closure, can have significant social implications (Machlis and others 1995). In Alaska, many small villages also lack adequate water and sewer systems, owing, in part, to regional needs for

such systems to be adapted to conditions specific to Alaska, which can make them expensive to build and operate (ISER 2002).

Per capita health care costs have been higher in Alaska than the greater United States in recent years at about $2,800 in 1991—24 percent higher than the national average ($2,255) (ISER 1992: 3). Higher health care costs have been attributed to the small size of Alaska's health care market, resulting in lower economies of scale, greater difficulties in attracting and retaining a skilled workforce, and near monopoly control by health care providers (ISER 1992: 3–4). Still, in terms of several health indicators, Alaska in general, and southeast Alaska in particular, fares well in comparison to national averages.

Infant mortality—a common index of community health (World Bank 1994)—reached an all-time low in the United States in 2000 at 6.9 deaths per 1,000 live births. Alaska's infant mortality rate in recent years has been even lower—5.9 per 1,000 live births in 1998 versus 7.2 per 1,000 live births for the Nation (ISER 2002). Infant mortality rates in southeast Alaska have been about equal to those statewide, averaging 6.8 per 1,000 live births (1995–1999) versus 7.0 for Alaska over the same period. Trends suggest that infant mortality rates generally have been declining—down from 9.1 per 1,000 births statewide in 1989-93 and from 8.4 per 1,000 births in southeast Alaska 1989–93 (ISER 2002). The rate of low-birth-weight babies also is lower in Alaska (6.0 percent in 1998) than the U.S. average (7.2 percent) (ISER 2002). The rate of low-birth-weight babies in southeast Alaska has been even lower, at 3.9 percent (1995–1999) versus 5.7 percent for Alaska during the same period.

However, Alaskan babies are nearly three times as likely to suffer fetal alcohol syndrome (1.4 per 1,000 live births, 1995–1998) as the U.S. babies (0.5 per 1,000 live births, 1998), and Alaska Native babies are nearly 10 times as likely (4.8 per 1,000 live births) (ISER 2002). It is believed that alcohol plays a part in everything from domestic violence to high rates of accidental death in rural areas (Berman and Hull 1997). The state legislature changed alcohol laws in 1981 to give communities broad powers to regulate alcohol via local referenda. Since then, many Alaska Native communities have sought various control measures on alcohol, with more communities approving greater restrictions on alcohol than communities relaxing restrictions. About 11 percent of Alaska's people and 52 percent of Alaska Natives live in places where restrictions on alcohol access have been implemented (Berman and Hull 1997).

Another health indicator is access to adequate prenatal care. Based on a 5-year average (1995–99), the percentage of mothers receiving less than adequate prenatal care has averaged 3.5 percent for Alaska. Rates have been somewhat higher in Alaska (4.8 percent) than the United States (3.8 percent) in 1999. Poor access to

medical care is most often cited as the reason for inadequate prenatal care among Alaskan women (ISER 2002). In southeast Alaska, however, the percentage of mothers receiving less than adequate prenatal care has generally been lower (2.7 percent) than both statewide and national averages (ISER 2002).

Public Safety

Crime often is used as an indicator of economic or social distress (Christensen and others 2000). Data available from the Uniform Crime Reporting Program (Dotomain 2001, Federal Bureau of Investigation 2001) show that crime rates in Alaska during 2000 were comparable to those of the United States and nonmetropolitan United States, but varied by reporting agency in southeast Alaska (table 11). Data suggest that violent crime rates per 1,000 population, including murder and nonnegligent manslaughter, rape, robbery, and aggravated assault were relatively high in Craig (10.0) and Petersburg (14.3), compared to rates for Alaska (5.2), the United States (5.0), and the nonmetropolitan United States (4.0). Violent crime rates were notably lower in Haines (2.9), Ketchikan (2.4), Klawock (2.4), and Sitka (2.0). Property crime rates per 1,000 population, including burglary, larceny-theft, motor

Table 11—Crime and law enforcement in southeast Alaska communities, 2000

Community[a]	Violent crimes[b]	Property crimes[c]	All crimes	Law enforcement officers	All crimes per law enforcement officer
			Numbers per 1,000 population		
Craig	10.0	49.4	59.4	3.6	16.6
Haines	2.9	33.5	36.4	2.1	17.4
Ketchikan	2.4	45.2	47.6	1.5	31.9
Klawock	2.4	43.3	45.7	3.5	13.0
Petersburg	14.3	27.3	41.6	2.2	19.1
Sitka	2.0	28.9	30.9	2.2	14.4
Skagway	4.6	68.5	73.1	4.6	15.8
Wrangell	5.2	69.8	75.0	3.0	24.7
Alaska	5.2	35.9	41.1	1.7	23.5
United States[d]	5.0	36.2	41.2	2.5	17.7
United States–nonmetropolitan[d]	4.0	40.8	44.8	—	—

— = not available
[a] Includes only municipal agencies contributing data in 2000.
[b] Includes murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. Excludes negligent manslaughter and simple assault.
[c] Includes burglary, larceny-theft, motor vehicle theft, and arson.
[d] From: Federal Bureau of Investigation (2001). Law enforcement officer figures for nonmetropolitan areas are unavailable.
Source: Law enforcement officers and crime figures from Dotomain (2001). Population figures from table 2.

vehicle theft, and arson, were relatively high in Craig (49.4), Skagway (68.5), and Wrangell (69.8), compared to rates for Alaska (35.9), the United States (36.2), and the nonmetropolitan United States (40.8). Property crime rates were somewhat lower in Haines (33.5), Petersburg (27.3), and Sitka (28.9) (table 11).

Crime rates generally have been decreasing throughout Alaska in recent years. However, although juvenile crime also has been decreasing, violent crime among juveniles remains high (ISER 2002). Recent trends show juvenile crime declining from 78 per 1,000 juveniles aged 10–17 (1992 to 1995) to 61 per 1,000 juveniles (1996–2000) for Alaska. Juvenile crime rates have been declining as well in southeast Alaska, from 94 per 1,000 juveniles (1992 to 1995) to 76 per 1,000 juveniles (1996–2000), but remain higher than average statewide (ISER 2002).

The number of law enforcement officers in southeast Alaska generally compares favorably with rates in Alaska and the United States (table 11). All southeast Alaska agencies reporting in 2000 had more law enforcement officers per 1,000 population than the statewide rate (1.7), with the exception of Ketchikan (1.5). Rates in Craig (3.6), Klawock (3.5), and Skagway (4.6) were double the statewide rate. Law enforcement officers per 1,000 persons generally were comparable to or better than the number of law enforcement officers per 1,000 persons in the United States (2.5), with only Ketchikan falling substantially below average (table 11). In terms of numbers of all crimes per law enforcement officer, southeast Alaska agencies reporting in 2000 generally fared better than the statewide rate (23.5), and were generally comparable to or better than the rate nationwide (17.7), with the exceptions being Ketchikan (31.9) and Wrangell (24.7). Klawock (13.0), Sitka (14.4), and Skagway (15.8) had the lowest crime rates per law enforcement officer in 2000 (table 11).

Quality of Life

Increasingly, researchers, planners, and policymakers acknowledge the significant role that quality-of-life factors play in motivating in-migration and retention of people in communities and regions (Garber-Yonts 2004, McCool and Kruger 2003). Natural amenities, including favorable climate, varied topography, and water features, have been shown to motivate population growth in counties possessing them (McGranahan 1999). McCool and Kruger (2003) suggested that rural immigrants often seek environmental-based amenities provided by public lands such as national forests and will frequently locate in forest-dominated settings. Rural amenities offered by nonmetropolitan areas in particular can even outweigh job-related advantages in attracting new residents (Swanson 1986). Other quality-of-life-related factors also are important to communities and regions, including local

government, public infrastructure, access to medical care, schools, and economic diversity, among others. Related research increasingly examines relations between socioeconomic and ecological conditions (Elmer and others 2002).

Acknowledging that quality of life is a "relative concept," Brown (1999) compared several survey-based quality-of-life measures computed for 17 Alaska communities: Anchorage, Cooper Landing, Cordova, Girdwood, Hope, Juneau, Kenai, Ketchikan, Moose Pass, Petersburg, Seward, Sitka, Skagway, Soldotna, Sterling, Valdez, and Whittier. The 17 communities were scored and ranked based on a composite score of 30 quality-of-life survey questions. Juneau ranked 11th, Ketchikan 16th, Petersburg 3rd, Sitka 9th, and Skagway 6th. Southeast Alaska communities generally ranked somewhat higher among all Alaska communities based on "community resilience" measures, which combined scores for regional amenities, economic structure, civic leadership, and social organization: Juneau ranked 3rd, Ketchikan 13th, Petersburg 5th, Sitka 2nd, and Skagway 6th. Brown's (1999) quality-of-life and resiliency measures highlight the diversity across communities in Alaska—an indication that communities will respond differently to change.

By some measures, such as those acknowledging natural amenities, southeast Alaska communities likely rank relatively high in quality-of-life measures. In particular, the scenic quality of southeast Alaska is a primary factor drawing tourism to the region and is noted in national media (see for example, Majendie 2002). The increasing importance of unearned income associated with retirement and health benefits suggests that retirees increasingly are moving to the region (Robertson 2004). The in-migration and retention of retirees will be something to watch in the coming years. Governor Murkowski has discontinued the longevity payments that provided older Alaskans with up to $250 per month. This, coupled with changes in Medicare at the national level, may influence the number of retirees residing in the state. In terms of other quality-of-life measures, such as weather or access to medical care, southeast Alaska communities could fare worse than other locations in the United States. The combined effect of different quality-of-life factors offered in southeast Alaska will affect both migration patterns and economic development in the region, as well as the general well-being of existing residents. Both tourism and in-migration of retirees can bring needed revenue into southeast Alaska from outside the region, but can be accompanied by other social and cultural changes brought about by the influx of new industries and new residents. As the population increases, some values appreciated by residents and newcomers alike may be compromised or lost (McCool and Kruger 2003). In-migrants bring diverse values and ways of interacting with the environment and different expectations for public agency behavior and public services.

Overview and Implications for Future Research

Despite having many unique geographic, climatic, and physical characteristics, social indicators examined in this chapter suggest that southeast Alaska exhibits many social conditions and trends similar to those statewide, as well as in the greater United States and nonmetropolitan United States. Regional population growth over the past decade lags behind statewide and national growth, but differs significantly across some communities with many increasing at rates comparable to those of the state and Nation. High school and college education attainment levels are relatively high and generally exceed those in the United States and nonmetropolitan United States. Income levels also are relatively high but may be offset somewhat by high costs of living. Income growth over the past decade has lagged nationwide growth, and this is reflected in increased poverty among southeast Alaska residents. However, although these increases have occurred at a time of declining poverty nationwide, poverty in southeast Alaska generally has remained lower than that in the United States and nonmetropolitan United States. Poverty rates, however, differ substantially among individual communities.

Many differences among communities in certain social conditions and trends likely are due in part to the relatively small size of some communities, which in addition to other characteristics may limit their ability to respond to change. Spatial isolation, particularly regarding trade routes, service centers, and shopping, service, and resort destinations, often is a characteristic of places having lower resiliency to change (Donoghue and Haynes 2002, Harris and others 2000). Similarly, nonmetropolitan areas throughout the United States whose economic activity has derived mostly from natural resources industries have had the lowest economic growth rates over the past two decades (Drabenstott and Smith 1996). These traits somewhat characterize many communities throughout southeast Alaska.

In comparison, over the past two decades, nonmetropolitan places experiencing the greatest economic growth throughout the United States have been places that offer scenic and recreational amenities, depend more on service industries, and have overcome geographic isolation with lower transportation costs to attract tourism and retirement-based growth (Drabenstott and Smith 1996). With its outstanding natural beauty and relative proximity to large population centers south along the Pacific coast, southeast Alaska likely has a comparative advantage in nature-based tourism. Indeed the cruise ship industry in particular appears to be one potential remedy for southeast Alaska's geographic isolation (Schroeder and others, this volume). However, from a social perspective tourism is not always benign (Hughes 1995, Pearce 1995) and can present a range of issues for regional planners, policymakers, and natural resource professionals. Expansion of cruise ship tourism has

not received universal praise from southeast Alaska residents and remains a divisive issue in many communities (Cerveny 2004).

For example, service and retail jobs associated with businesses catering to cruise ship tourists may not provide incomes matching those of natural resource or other industries. Community services, such as water, sewers, garbage disposal, and maintaining public rest rooms, may be strained by the regular influx of cruise ship passengers. Moreover, economic activity generated by cruise ships in many communities may be limited when cruise ship companies buy and operate existing businesses, significantly reducing the proportion of cruise ship-generated revenue that remains within affected communities. As cruise ship companies and other nonlocal interests expand their ownership of local businesses, the lasting effects may include a significant loss of local character and community identity from the perspective of local and long-term residents. The socioeconomic and cultural impacts of tourism are not issues unique to southeast Alaska, but rather have attracted considerable attention from tourism researchers worldwide (Kline 2001). The future long-term success of cruise ship tourism in southeast Alaska likely depends on maintaining public support through greater local control, and mitigating adverse socioeconomic consequences, for example, recouping lost revenues and compensation for local services provided to cruise ship passengers through docking and landing fees.

We have only briefly examined some indicators useful in describing social conditions and trends by using secondary data sources. Different types of information gathered from primary and secondary data sources and at different scales likely can improve the reliability and interpretation of social indicators in community assessment (Parkins 1999). Many other factors could be examined. For example, population change data do not describe the characteristics of people moving into or out of the region, and the changes they may bring to individual communities and the region. In- and out-migration of workers resulting from changing economic conditions, retirees either entering or leaving the region, and migration patterns fueled by individuals seeking improved quality of life are just a few of the potential changes that can significantly affect regions and communities in terms of economic activity, demands for public services, human capital, and the characteristics that give individual communities a shared sense of place. More detailed analysis of migration patterns and their effects on southeast Alaska likely could be accomplished by using data from the Internal Revenue Service and other sources, which was beyond the scope of this summary. Likewise, greater use of primary data, such as surveys of residents or business operators, could examine social implications of tourism industry growth in the region.

A more thorough examination of social conditions and trends, potentially using primary as well as secondary data, could focus on current socioeconomic changes affecting southeast Alaska and their effects on social conditions. Potential issues of interest include, but are not limited to:

- Examining sources of demographic change, such as migration patterns, and whether and how they are changing the socioeconomic characteristics of southeast Alaska's people.
- Evaluating the degree to which changes in vacancy owing to seasonal, recreation, or occasional housing uses are related to actual changes in recreational uses versus changes in temporary employment, such as logging.
- Examining socioeconomic impacts of increased reliance on tourism, and the manners in which natural resource management can affect those impacts.
- Identifying and describing characteristics that distinguish southeast Alaska from other nonmetropolitan or rural places of the United States, as well as identifying and describing commonalities.
- Defining how southeast Alaskans define quality of life and examining their perceptions regarding change in their quality of life.
- Learning whether Alaska communities less than 1,500 people are less able to respond to socioeconomic change than communities greater than 5,000, and how the ability to respond to change may be similar and different from communities in other parts of the country and world.

Change is inherent in socioeconomic systems. Analyses of how and why southeast Alaska is changing can help provide visions of the future to guide policymaking and planning toward desired outcomes. Southeast Alaska has undergone and continues to undergo socioeconomic changes resulting from declining federal and private timber harvests, changing national and international markets, and an expanding tourism industry, among other factors. Theses changes continue to effect changes in social conditions and trends in the region. Higher levels of population growth in other regions of the state, coupled with reduced influence of Alaska's delegation in Congress, may make it harder to get funding for projects in southeast Alaska. Potential changes in ferry service and road development could result in changes in transportation patterns and improved access to regional hubs and recreation opportunities. Socioeconomic research must strive to identify and anticipate such changes, and examine and interpret their implications for people and policy.

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Chapter 3: Tourism Growth in Southeast Alaska: Trends, Projections, and Issues

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Abstract

Schroeder, Robert; Cerveny, Lee; Robertson, Guy. 2005. Tourism growth in southeast Alaska: trends, projections, and issues. In: Mazza, R.; Kruger, L.E., tech. eds. Social conditions and trends in southeast Alaska. Gen. Tech. Rep. PNW-GTR-653. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 45–91p.

Tourists have visited Alaska for more than a century. In the last decade, tourism has been one of the fastest growing components of Alaska's economy and an important source of export-based income. Historical background and a description of recent trends are used as the basis for a discussion of possible future developments for tourism in southeast Alaska. Natural resource management and use in Alaska will affect and will be affected by trends in tourism growth and activities. An understanding of the future of tourism is, therefore, an important component of natural resource management and planning.

Keywords: National forests, land management, recreation, economics.

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Introduction

The tourism industry grew rapidly in southeast Alaska throughout the 1990s and into the early 2000s. Increase in demand for cruise travel worldwide and the continuing fascination with Alaska as a travel destination have resulted in a steady flow of visitors to the area. Tourism gained economic significance in southeast Alaska relative to traditional industries, such as fishing and timber, which experienced declines throughout the 1990s. Alaska derives more economic benefits from people who travel to Alaska to enjoy scenery and wildlife and relies less on resource extraction than it did 20 years ago.

Most recent tourism growth is linked to the increased cruise ship travel to the region, and Alaska ranks as one of the world's most popular cruise destinations. In 2002, roughly 870,000 visitors journeyed to southeast Alaska, or about 12 visitors for every southeast Alaska resident. Travelers come to experience the area's glaciers, fiords, wildlife, wilderness areas, and "authentic" communities.

Context

Rugged topography, dense northern temperate rain forests, and relative isolation characterize the numerous islands and narrow strip of mainland that make up southeast Alaska, which stretches from Yakutat to the southern border with Canada (fig. 1). About 73,000 people live in the region's 30 main communities. Community

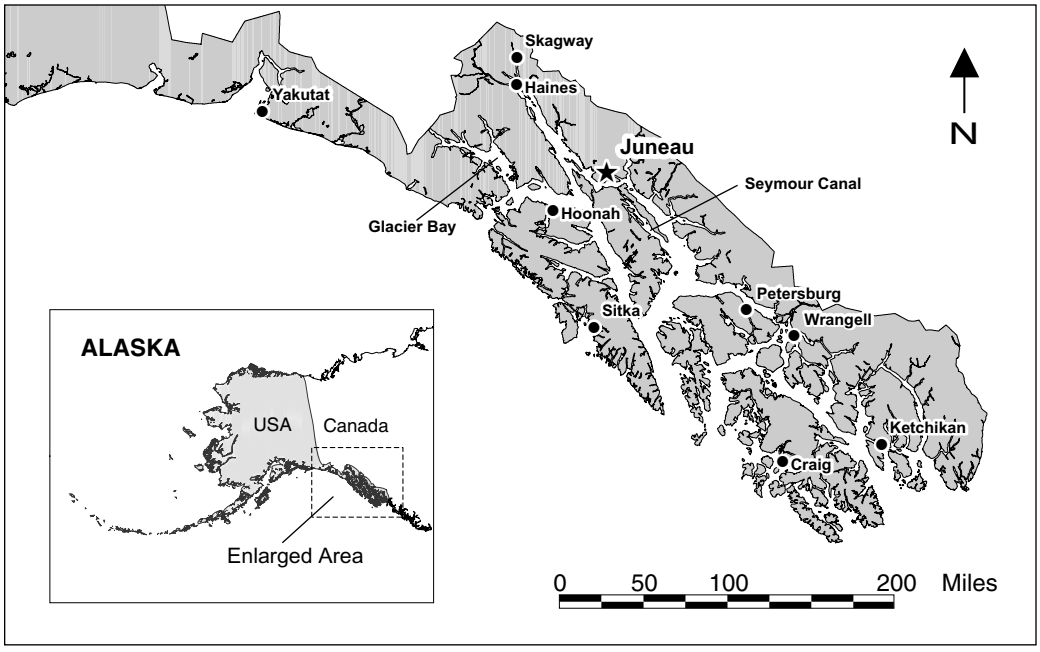

Figure 1—Southeast Alaska.

sizes range from Juneau, the state capital, with about 30,700 residents to small communities such as Pelican or Tenakee Springs with fewer than 150 year-round residents (USDC Bureau of the Census 2000). About two-thirds of the region's residents live in the largest communities of Juneau, Ketchikan, Sitka, Petersburg, and Wrangell. The small community size and low population density mean that the economic impact of large-scale tourism has been significant, and that local residents can provide only a portion of the labor and enterprise needed in this growing industry.

Tlingit, Haida, and Tsimsian Indians make up 27 percent of the population in southeast Alaska. The communities of Angoon, Hoonah, Hydaburg, Kake, Kasaan, Klawock, Klukwan, and Yakutat have majority populations of Tlingit or Haida Indians (USDC Bureau of the Census 2000). The communities of Craig, Haines, Juneau, and Sitka also have sizable Native Alaska populations. Native tribes in the region have tribal governments[4] that may operate in parallel with city governments. Most of the communities of the region are located at Native village sites. The existence of strong Native communities creates a potential for developing cultural tourism as well as a potential incompatibility between Native traditions and tourism industry interests. Some of the region's Native corporations, established as part of the 1971 Alaska Native Claims Settlement Act, have become active in tourism-related businesses and have become some of the larger locally owned tourist operations. Their approaches to tourism generally include a cultural component.[5]

The Tongass National Forest includes 17 of the region's 21 million land acres. As a result, forest management decisions can significantly impact residents' lives. Another significant portion of land in the region, 3 million acres, is managed by Glacier Bay National Park and Preserve. Native corporations have significant commercial timberland holdings in the region; these lands were selected by the corporations under provisions of the Alaska Native Claims Settlement Act of 1971. Because most land in the region is under federal management, the policies of the federal agencies can potentially affect tourism growth and development in the region.

Travel in and out of the region is primarily by plane, ferry, or other boat. Two roads connect the communities of Haines, Klukwan, and Skagway with northern

[4] Alaska tribal governments are federally recognized under the Indian Reorganization Act of 1937.

[5] For example, Goldbelt, the Juneau-based Native corporation, owns and operates the Mt. Roberts Tram, the Goldbelt Hotel, an adventure rafting company, and a fleet of small tourist boats through Auk Nu Tours. Klukwan, Inc., based in Haines, owns a fast ferry business, bus tour company, gift shop, and restaurant. Huna Totem, Corp., purchased an historic cannery in 1997 and created a culturally based cruise ship destination. Many other Native corporations in southeast Alaska have invested in tourism.

British Columbia and southern Yukon Territory. These roads play important roles in tourism development by providing a link between cruises in southeast Alaska and inland Alaska tourist sites. Hyder is connected by road to Stewart, British Columbia, and receives mainly Canadian visitors from nearby communities. These are the only road networks in the region. The logistics of tourism in the region rely on cruise boats, ferries and charter boats, large commercial flights, small chartered flights, and helicopter air taxi services to get tourists to and from sites in the region.

Hunting and fishing for home consumption continue to be important traditions for many of the area's Native and non-Native residents; large quantities of salmon, halibut, and other fish along with 10,000 to 15,000 Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) are taken each year for this purpose. Subsistence harvest levels in many communities exceed 200 pounds of wild food per capita per year.[6] In addition to being an important source of household consumption, access to fish and game is an important quality-of-life indicator for rural Alaskans. Tourists' interest in viewing wildlife and catching fish generally does not conflict with subsistence uses. However, the expansion of tourism activities into the national forest does have the potential to impede subsistence access to resources in areas heavily used by guided tour groups (Cerveny 2004). In some cases, tourism employment may complement participation in subsistence activities. Conflicts do occur, however, over who gets to catch fish in what places; closing areas to hunting in order to support wildlife viewing may not be popular with local residents. Local residents may have less success fishing in areas with strong charter boat fishing. Setting aside areas for wildlife viewing may conflict with the hunting traditions of area residents. Other conflicts occasionally occur between subsistence hunters who are after sea otter or seals and tourist operators who are intent on showing these species to visitors.

Southeast Alaska's economy has long depended on natural resources, including mining, fishing, and timber (Allen et al. 1998, Gilbertsen 2004). The regional economy is in transition as fewer people are employed by the timber and fishing industries and more find jobs in the service and government sectors. Commercial fishing, although not growing or thriving, continues to be an anchoring regional economic activity. Commercial fishing has declined in importance in the region mainly owing to changes in the world market for wild Alaska fish, which has reduced the price of salmon, Alaska's greatest export. Weaker Asian markets, the predominance

[6] Subsistence hunting and fishing has special legal recognition and protection for residents of the area's rural communities under the Alaska National Interest Lands Conservation Act of 1980. Subsistence harvest levels may be seen at www.state.ak.us/local/akpages/FISH.GAME/subsist/geninfo/publctns/cpdb.htm.

of farmed salmon, and fish from eastern Russian have hurt southeast Alaskan fishermen, who declined in numbers by 37 percent from 1990 to 2002 (Gilbertsen 2003a).

Timber harvesting was a mainstay of the region's economy from the 1960s to the 1990s. In the mid-1990s, the region's three pulp mills closed owing to changing market conditions and harvest restrictions imposed by the Forest Service. Between 1990 and 2002, 3,000 logging and sawmill jobs were lost in southeast Alaska (Gilbertsen 2004). Timber harvests on the Tongass National Forest declined from a high of 470 million board feet in 1990 to 31.9 million board feet in 2002 (93 percent) (table 19 in Warren 1996, 2004). Because of poor market conditions and management decisions that limit logging activities, timber harvests are likely to remain low for the foreseeable future. Much of the highest value timber has been harvested from the land available for logging. Up through 2002, little processing of timber to finished value-added products took place within the region. However, the value-added forest products industry was considered a potential source of future economic growth.

Although some mines continue to operate in the region, potentially large new mining operations have been affected by low commodity prices and remain in the planning stage. Greens Creek mine on Admiralty Island near Juneau is the largest mine in operation, employing 250 workers in 2003. Mineral explorations throughout southeast Alaska, including searching for platinum near Ketchikan and marble on Prince of Wales Island, suggest that mining may be important in the region's future, depending on market conditions (Gilbertsen 2003b).

Overall, the southeast region reflects larger economic changes affecting Alaska. During much of the 1980s, development of the state's oil resources pushed the state's per capita income to one of the highest in the Nation. During that period, government services expanded greatly as royalty payments from North Slope oil production began to fill state coffers. Alaska does not have a state income or sales tax; so, most government expenditures are funded with oil royalty and severance taxes. In recent years, government spending has been flat or declining owing to lower returns from the state's oil resources. Alaska's national ranking slipped in the 1990s, as the per capita income in other parts of the country grew substantially. The expansion of the U.S. economy during that period, resulting from widespread adoption of new computer and communication technologies, largely skirted Alaska. These global changes have not favored the resource extraction industries of the state. In contrast to declines in commercial fishing, resource extraction industries, and government services, tourism has undergone rapid growth in the region.

Tourist Arrivals to Southeast Alaska

Tourism is not new to southeast Alaska. Early adventure travelers were impressed by the accounts of John Muir and others describing the wild majesty of Alaska.[7] A number of adventure steam ship cruises took place in the region in the late 1880s and 1890s (Nash 1981, Norris 1985). The smaller gold rushes in southeast Alaska, the well-reported Klondike gold rush at the turn of the century, and lesser gold rushes in Nome, northern British Columbia, and Yukon Territory captured the Nation's imagination and established a travel and logistical infrastructure that would facilitate a new form of adventure travel. The completion of the White Pass and Yukon railroad in 1900 made it possible to travel in style to famous gold rush sites.

Technological changes made it possible for a person to travel across the United States on a well-equipped train car and board a steamer in Seattle to travel up the Inside Passage from Washington to Alaska (Lofgren 1999). This was the 19th century equivalent for what is now termed "soft adventure." The intrepid and well-heeled traveler could then travel by rail from Skagway into Yukon Territory and then by lake and riverboats to Atlin, Whitehorse, Dawson City, or even Nome. Social and economic changes in the United States had created the wealth and, at least for some, the leisure to follow such adventures. Early travelers were drawn to the same key attractions that continue to captivate visitors to southeast Alaska. These are primarily attractions of the natural world rather than the built environment. People came (and still come) to southeast Alaska to see wild country; fjords with whales, seals, and sea lions; black and brown bears; uncut forests; tidewater glaciers; and mountains capped with snow in midsummer. Travel to learn about Native cultures and purchase Native-produced handicrafts also was popular (Norris 1985).

The number of visitors to southeast Alaska by steamship subsided in the early part of the 20th century, because of wars, economic factors, and an earthquake in Glacier Bay that clogged the area with ice. In the mid-20th century, steamships were replaced by cruise ships and the number of visitors increased significantly. In the 1960s and 1970s, several companies brought tour boats and small cruise ships to southeast Alaska's port cities. In 1973, 36,556 visitors came to southeast Alaska on cruise ships (Clark and Lucas 1978). Heavy marketing by the cruise industry increased cruise visitor numbers worldwide. Alaska began seeing steady increases

[7] John Muir visited the area in 1879 on his first of many visits to the area. His public talks and articles popularized the area. See, for example, his later published work, Muir 1915. He was also a member of the well-reported 1899 Harriman Expedition (Burroughs and Muir 1986, original 1899).

in its share of cruise visitors. By 1980, more than 86,000 visitors were cruising to Alaska annually (Juneau Convention and Visitors Bureau 2000). This number increased to more than 230,000 in 1990.

In the late 1960s, travelers began coming by automobile, ferry, and airplane, as transportation infrastructure developed. Visitors came on combination tour packages developed by the tourism industry or traveled independently to southeast Alaska port communities and Glacier Bay. Many came to Alaska for fishing–staying in fishing lodges or hiring day charters. Others stayed in wilderness lodges or participated in nature-based tours, such as rafting, kayaking, or whale-watching. Over the 1980s and 1990s, bed and breakfast establishments, wilderness lodges, and traditional forms of accommodations sprung up in port communities throughout the region, catering to the independent visitor. According to anecdotal evidence, number of independent visitors held steady from 1980 through 2002. However, throughout the 1980s and 1990s, an increasing proportion of visitors to southeast Alaska arrived by cruise ship. In 1985, an estimated 64 percent of visitors were cruise guests, but by 2001, this figure increased to 75 percent (McDowell Group 2002).[8] This growing emphasis on cruise travel was associated with several factors including increased cruise-ship capacity, periodic problems with the state ferry system inhibiting independent travel, travel agent incentives for encouraging cruise travel, and declines in state budgets for tourism marketing.

The following section charts tourism growth in southeast Alaska over time. Available information sources allow us to examine several data series with different time depths. Because southeast Alaska is well defined geographically, and because road access in and out of the region is limited, we have good indicators of overall tourist and visitor flow in the region.

Cruise Arrivals

In 2001, Alaska was among the top four cruise destinations worldwide (CLIA 2004). In 2002, more than 740,000 guests arrived to southeast Alaska by cruise ship. Ships originate in Vancouver or Seattle and travel to Alaska on 7- or 11-day journeys, stopping in several port cities, with some visiting Glacier Bay National Park. Figure 2 charts cruise passenger arrivals for five southeast Alaska communities. Cruise ships visiting southeast Alaska have had varying itineraries during the time series represented in this figure. Most ships stop at Ketchikan soon after they

[8] A study by the McDowell Group in 2003 showed that 90 percent of visitors to Juneau were cruise visitors (Juneau Empire 2004).

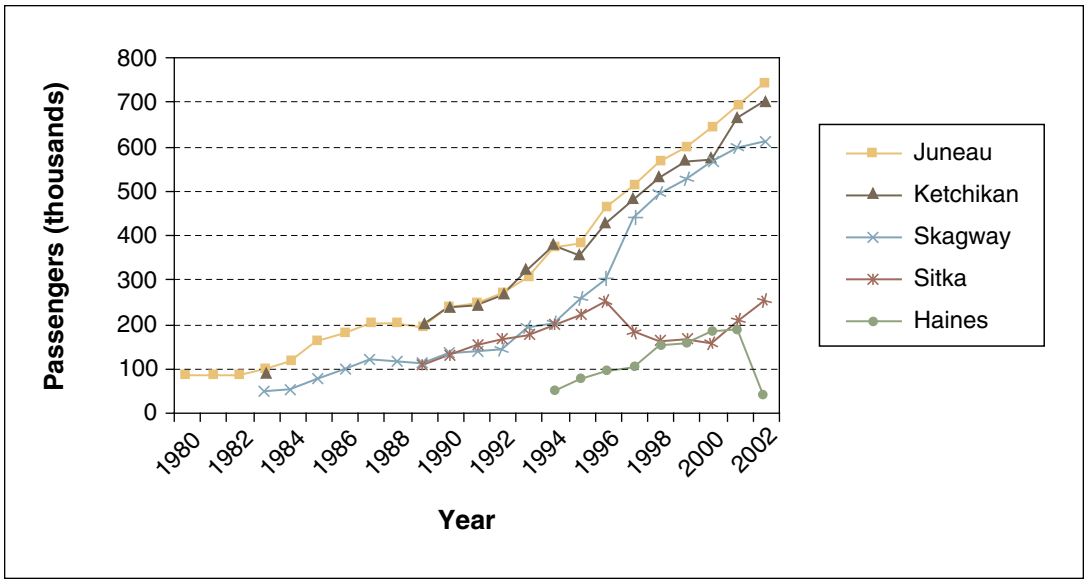

Figure 2—Cruise passenger arrivals for five southeast Alaska communities, 1980–2002. (Source: Convention and Visitors Bureau of Juneau [2000, 2003], Ketchikan [2003], Skagway [2003a], Sitka [2003], and Haines [2003].)

enter Alaskan waters. Almost all cruise ships stop in Juneau and Skagway.[9] Juneau is a popular attraction because of its frontier history, natural attractions, including Mendenhall Glacier, and human-built attractions, including a tramway. In addition, Juneau offers ample shopping opportunities and short excursions. Skagway developed as a major cruise ship destination with the reopening of the White Pass-Yukon Railroad. Visitors to Skagway explore its history as a Gold Rush outpost and the terminus of the Chilkoot Trail to the Klondike. Cruise ship tourists also transition to land tours to interior British Columbia and Alaska through Skagway. Haines and Sitka have been less frequently visited by cruise ships. Visitation to these "marginal" ports has been susceptible to changes in corporate policy and economic factors. Other communities, such as Wrangell, Kake, and Petersburg, received visitors from small cruise ships in 2002, although Wrangell expanded its dock and opened up for large cruise ships in 2003. Figure 2 tracks passenger volume only. Modern cruise ships have almost 1 crew member for each 2.5 passengers.[10] Thus, a ship with 2,200 passengers would include about 880 crew members.

[9] Other Alaska cruise ship itineraries pass through southeast Alaska and may visit the Hubbard Glacier at the head of Yakutat Bay and the Columbia Glacier in Prince William Sound before depositing passengers for land-based tours in south-central Alaska. Ship traffic in Yakutat Bay was about 120 to 140 vessels in 2000.

[10] Crew are given "shore leave" when their ships are in port, and this adds significantly to the number of people a cruise ship puts on city streets, shopping and using municipal services. Including crew numbers in Juneau's cruise ship visitation levels, for example, would increase the total by 40 percent to 885,000 visitors.

Because most cruise ships stop in Juneau, Juneau docking data provide a good proxy measure for overall growth of cruise ship passenger volume in the region. In 1981, 83,000 cruise visitors arrived in Juneau; by 2002, the number had grown to 739,700. Except for a brief dip in growth in 1989,[11] passenger volume has shown strong growth in the past 21 years. Even the 2001 terrorism attacks in the United States did not negatively affect the number of cruise visitors.[12]

Not surprisingly, growth in cruise passenger visitation to Ketchikan parallels the growth experienced in Juneau, with overall volume rising from about 89,000 visitors in 1983 to approximately 703,000 visitors in 2002, or about 10 percent annually. Levels of cruise ship visitation in Sitka reflect changes in cruise ship schedules as well as the community's ambivalence about this form of tourism development.[13] The number of ship visits to Sitka declined when companies changed itineraries to include more visits to Glacier Bay. Cruise ship visitation in Haines underwent rapid development in part because Haines invested in good docking facilities. In 2001, however, it declined sharply when a major cruise line suddenly changed its docking schedule, omitting Haines from its itinerary. The decline of 147,000 cruise visitors from one season to the next was expected to have significant economic ramifications in Haines (Cerveny 2004).[14]

These data show a rapid and significant increase in cruise ship visitation from 1983 to 2002. For Juneau, our main indicator community, the 2002 level of visitation is seven times what it was in the early 1980s. The number of cruise ship visitors has more than doubled between 1993 and 2002. This time series shows a 10.1 percent mean annual growth rate between 1993 and 2002, slightly lower than the 11.3 percent average annual growth experienced since 1983. Later in this paper we examine projections of future growth that could occur if these past trends continue.

Dockings of cruise ships in Juneau for the 1987 through 2002 period are shown in figure 3. The number of cruise ship visits to Juneau almost doubled in this period, and the mean annual rate of increase was 5 percent. Between 1990 and 2000, the mean annual rate of increase was 9.9 percent, but dockings declined 1.8 percent

[11] The dip in 1989 was due to cruise ship capacity problems rather than weakening demand for cruising Alaska.

[12] The increase in visitors to Juneau from 2001 to 2002, the season after the terrorist attacks on the World Trade Center was 4 percent, compared to 9 percent growth from 2000 to 2001. Growth rates resumed to 8 percent from 2002 to 2003. Economic factors, including the bursting of the "dot-com bubble" also may have contributed to this temporary slowing of growth.

[13] Sitka residents voted against providing docking to cruise ships so visitors must be brought in from anchored ships by small boats to Sitka.

[14] Haines continued to face ups and downs in cruise visitor levels. In 2002, 86,000 cruise passengers visited Haines; however, this declined to less than 30,000 for 2003 and 2004.

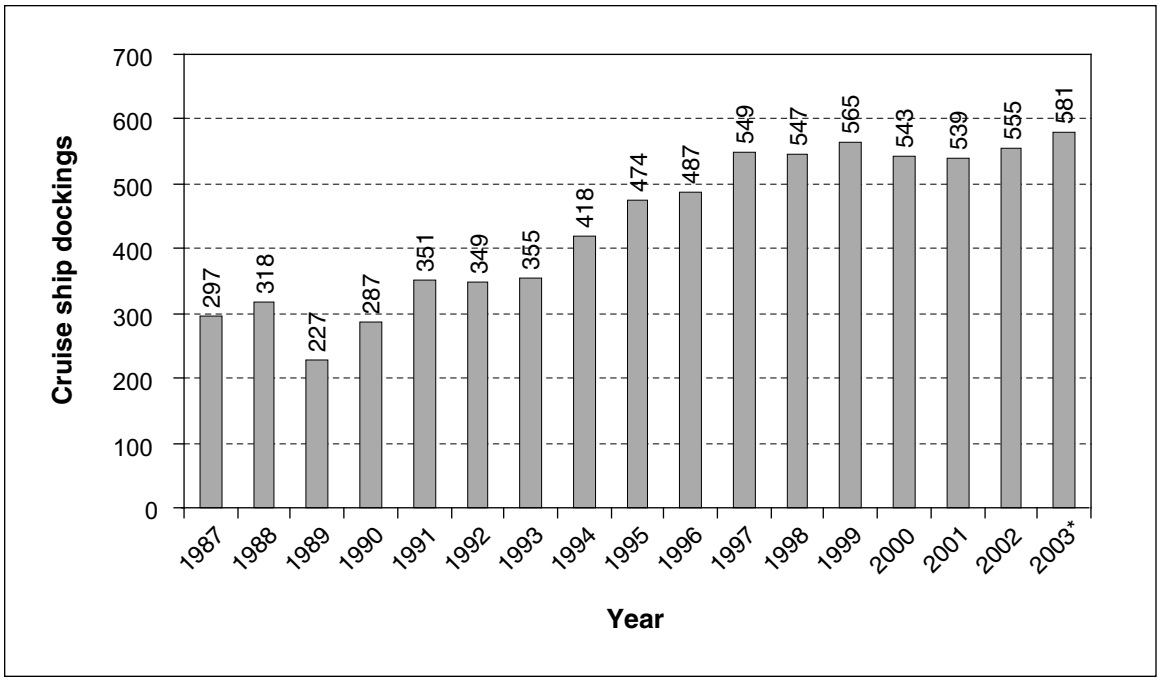

Figure 3—Juneau cruise ship dockings, 1987–2003 (*projected). (Source: Juneau Convention and Visitors Bureau 2000, 2003.)

between 1999 and 2002.[15] In the 1990s, cruise companies increased cruise capacity by replacing many older ships with larger vessels.

Air Travel

The number of people flying to Juneau has increased from about 155,000 per year in 1980 to about 265,000 in 2002, increasing roughly 4 percent annually during that period (fig. 4). There is also regularly scheduled commercial jet service to Ketchikan, Sitka, Petersburg, Wrangell, and Yakutat. It is impossible to know for certain how many of these air travelers to Juneau are visitors. However, using estimates on statewide air travel from the 2001/2002 Alaska Visitor Arrival studies, we can estimate that 52 percent of these (137,000) are visitors (Northern Economics, Inc. 2003a, 2003b).[16] Overall air travel in Alaska has grown at a mean annual rate of 2.7

[15] The Juneau docking data include visits by a number of small cruise vessels that embark and debark passengers in the community.

[16] This figure is calculated by accepting the study assumptions derived for the state of Alaska, where 59 percent of domestic air travelers and 62 percent of international air travelers in the summer of 2002 were visitors (Northern Economics 2002a); 34 percent of domestic air travelers and 49 percent of international air travelers in the fall/winter of 2001/2002 were visitors (Northern Economics 2002b). For this analysis, it was assumed that 25 percent of international travelers in the fall/winter season were visitors. A lower proportion was assumed because Juneau does not receive the influx of skiers or aurora borealis visitors from Asia during these months.

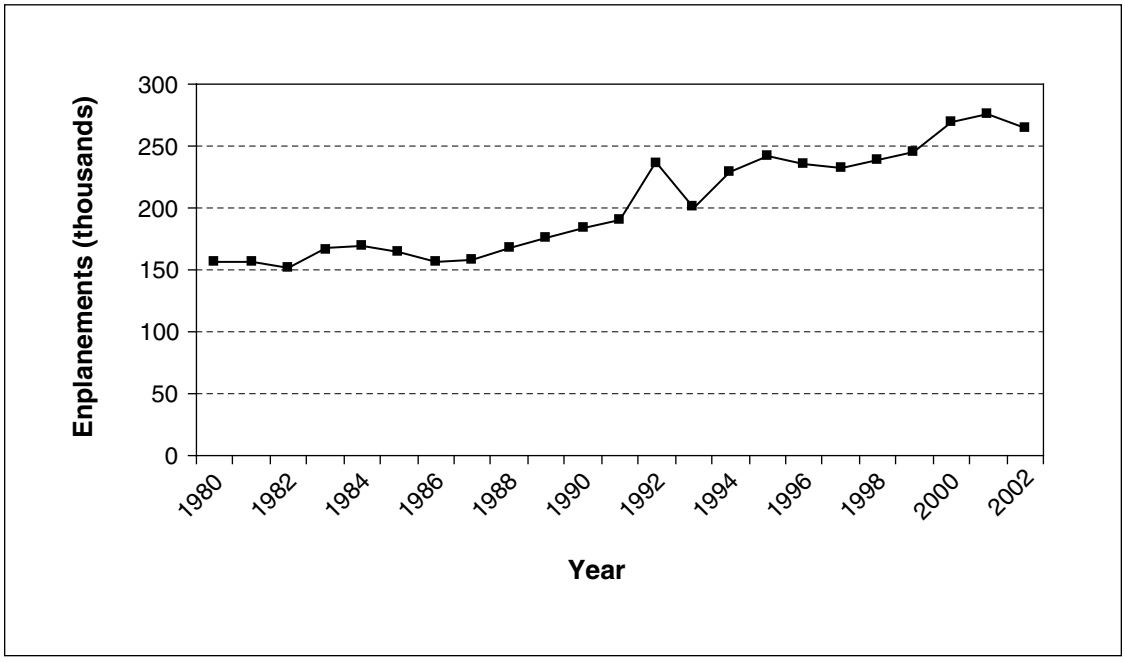

Figure 4—Commercial airline enplanements at Juneau International Airport, 1980 to 2002. (Source: JNO 2003.)

percent over this 22-year period, despite larger increases in air traffic nationwide. The disruption to air travel after the 2001 terrorist attacks in the United States negatively impacted domestic and international air arrivals to Juneau. As a result, summer 2002 was the first year more visitors came to Alaska via cruise ship than by plane (Northern Economics, Inc. 2003b).

Ferry Passengers

The state operates the Alaska Marine Highway System, which connects communities with ferry service. The marine highway system includes ferry runs to Prince Rupert, British Columbia, and Bellingham, Washington.[17] The number of people riding the state ferries in southeast Alaska fluctuated between 1980 and 2002 (fig. 5). Ridership was highest in 1992 (372,000 passengers) and lowest in 2002 (276,000 passengers) during this period (Alaska Marine Highway System 2000a). Although we are unable to disaggregate passengers into tourists and others, we are able to look at seasonal fluctuations. The number of passengers is strongly seasonal with high levels occurring during the main tourist season, May through September (fig. 6). No trend over time is apparent, however. Clearly, tourists use the ferry system seasonally; however, volume may be more closely related to the funding and service levels provided by the state

[17] Bellingham is the current southern terminus. Seattle was the terminus until the early 1990s.

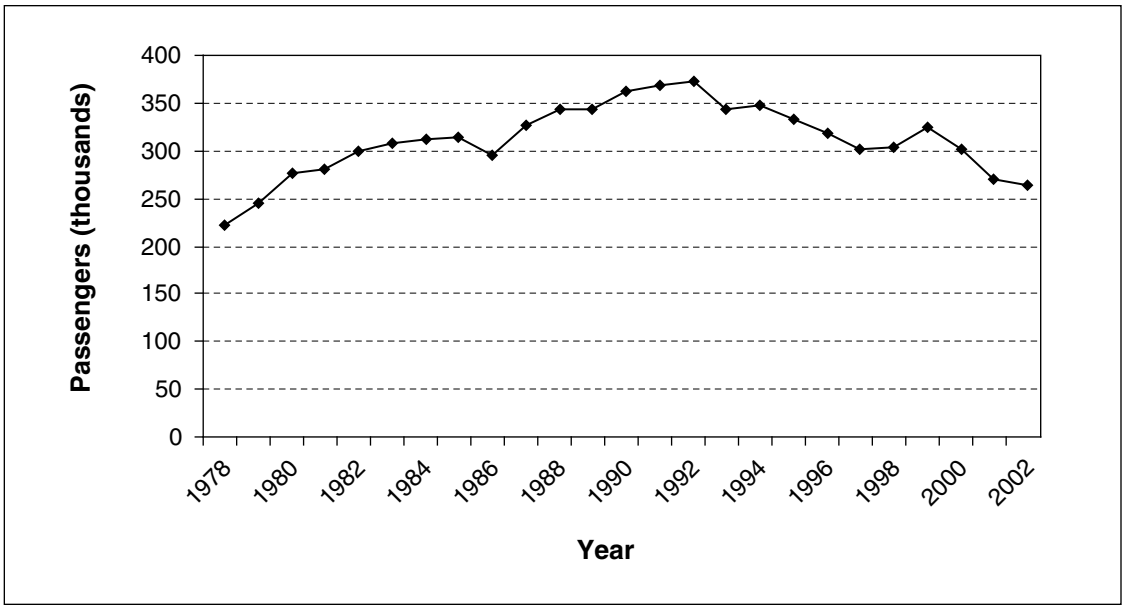

Figure 5—Southeast Alaska Marine Highway passengers, 1978 to 2002. (Source: Alaska Marine Highway System 2000a, 2002a.)

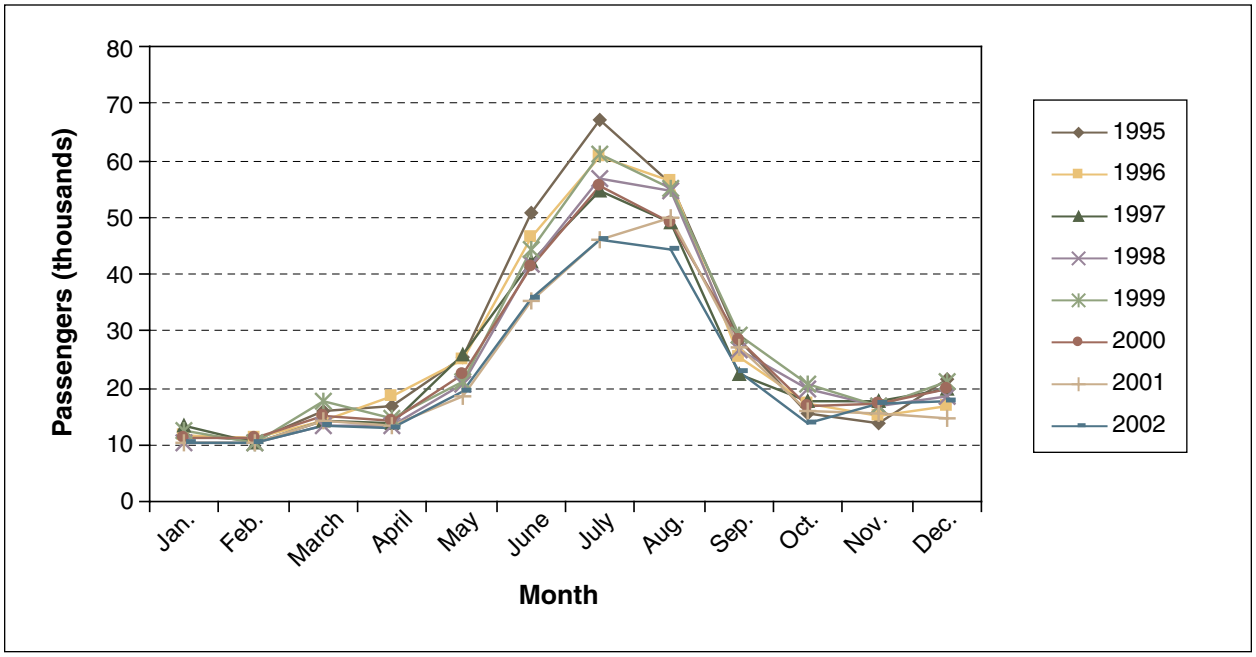

Figure 6—Alaska Marine Highway passengers by month, 1995–2002. (Source: Alaska Marine Highway System 2000a, 2002b.)

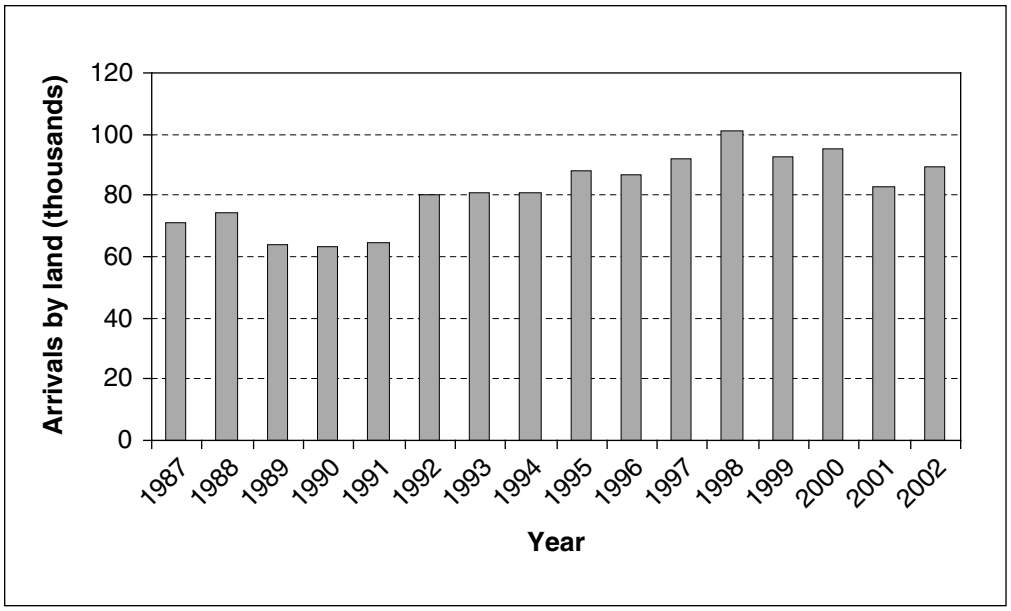

Figure 7—Skagway arrivals by land (April through September). (Source: Skagway Convention and Visitors Bureau 2003.)

than by demand. For example, the ferry system operates at capacity during peak visitor months but offers reduced services other times of the year. Ferry visitation, at best, has provided a fairly consistent level of visitation over the past 20 years.

Road Traffic

There are two highway border crossings north of Haines and Skagway. As with the airline data, we are not able to disaggregate tourists from other persons crossing the border. Between 1989 and 2002, the number of people arriving by road through the Skagway portal between May and September increased about 40 percent; this includes private vehicles, trucks, and buses (fig. 7) (Skagway Convention and Visitors' Bureau 2003). Despite this increase, border crossings at Skagway remain low relative to the volume of tourists who visit the region. Skagway border crossings between April and September ranged from a low of 63,000 in 1990 to a peak of more than 100,000 in 1998, declining to approximately 90,000 in 2002. Some estimates suggest that perhaps 56 percent of these independent travelers are visitors (Northern Economics 2003b).

Total border traffic at Haines, shown in figure 8 gradually declined by 31 percent from 1993 to 2002 (Haines Convention and Visitors Bureau 2000, 2003). In a given year, traffic increases between May and September as the weather improves. Border crossings between May and September composed 71 percent of

total crossings in 1987 and increased to 88 percent of total crossings in 2002—perhaps indicating that a greater percentage of travelers are summer visitors. Border crossings from Haines between May and September fluctuated between 31,000 and 42,000 visitors between the years of 1987 and 2002, peaking in 1994.

Tourism Segments in Juneau

The Juneau Convention and Visitors Bureau tracks cruise visitors and independent non-Alaskan resident visitors to Juneau. Here "independent visitor" means "non-cruise ship visitor" and includes people who booked through charter fishing lodges and guided wilderness trips, and people with less programmed trips. There are no data that definitively measure independent visitors, although the Juneau Convention and Visitor's Bureau (2000) has estimated approximately 100,000 visitors between 1993 and 1999 while cruise boat visitation volume doubled. Anecdotal reports throughout the region also suggest that the number of independent travelers to southeast Alaska has remained stable throughout the 1990s and through 2002.

Overview

The tourist arrival data provide a reasonable estimate of overall visitation experienced in southeast Alaska. Using Juneau as a proxy for the region, there were about 741,000 cruise ship visitors and 105,000 independent visitors or 846,000 visitors to the capital city in 2002 (Juneau Convention and Visitors Bureau 2003). Some cruise ships do not stop in Juneau, and some independent travelers may bypass Juneau and go to fishing resorts or adventure travel trips via Ketchikan or Sitka. Although firm numbers on these visitors are hard to come by, we estimate about 100,000 visitors bypass Juneau, including 50,000 cruise ship visitors and 50,000 other visitors who come to southeast Alaska but do not visit Juneau. This leads to a rough estimate of total visitor numbers for the region of 935,000 in 2002, excluding cruise ship crew.

Cruise ships bring most visitors to southeast Alaska, with three of four visitors coming by cruise ship in 2001 (McDowell Group 2002). Visitors who come to southeast Alaska by plane, ferry, or overland are in the minority. In addition, these methods of access show relatively modest rates of increase over time. The volume of visitors arriving by cruise ship has increased at an annual rate of about 10 to 11 percent. Since the 1980s, cruise ship visitation has doubled about every 7 years.

Cruise ship visitation is concentrated in a few locations in the region because large ships typically make five ports of call in southeast Alaska. This concentration of cruise ship tourism in a small number of ports leads to discontinuities in tourism-related benefits and problems in southeast Alaska communities. The communities experiencing high levels of mass tourism may find their economies

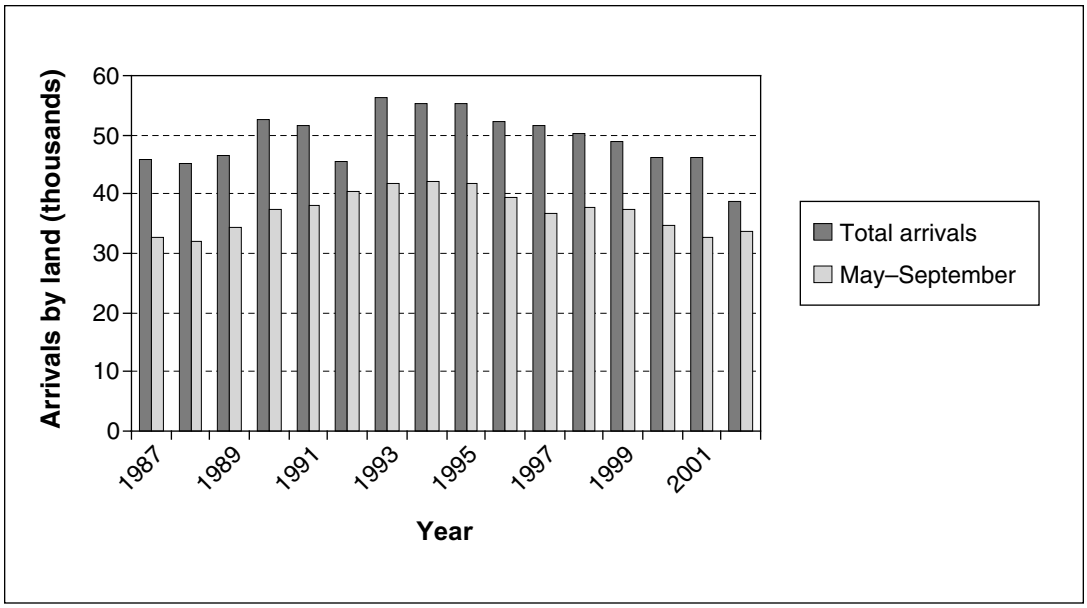

Figure 8—Haines arrivals by land (1987–2002). (Source: Haines Convention and Visitors Bureau 2003.)

and sociocultural life rapidly transformed by cruise ships, whereas other communities remain on the sidelines of potential costs and benefits of tourism growth in the region.

Tourist Activities in Southeast Alaska

The following section examines visitation data for some key visitor activities in southeast Alaska. The purpose of this section is to describe visitor trends for various tourist attractions and activities throughout southeast Alaska. The activities selected represented a diverse sample of visitor activities oriented toward nature-based tourism. (The sample does not include visitation data for cultural or historical attractions.) Analysis of visitor trends for these specific activities allows us to further examine tourism trends on a microlevel. In addition, trends for these activities illustrate various factors that enhance, inhibit, or limit increased visitor use, such as government regulation. Each of these visitor activities takes place on publicly managed lands and waters, which subjects them to regulations and administrative practices binding these agencies.

Glacier Bay

Glacier Bay National Park features tidewater glaciers, pristine wilderness, abundant marine and terrestrial wildlife, and natural ecological succession; it has long been a

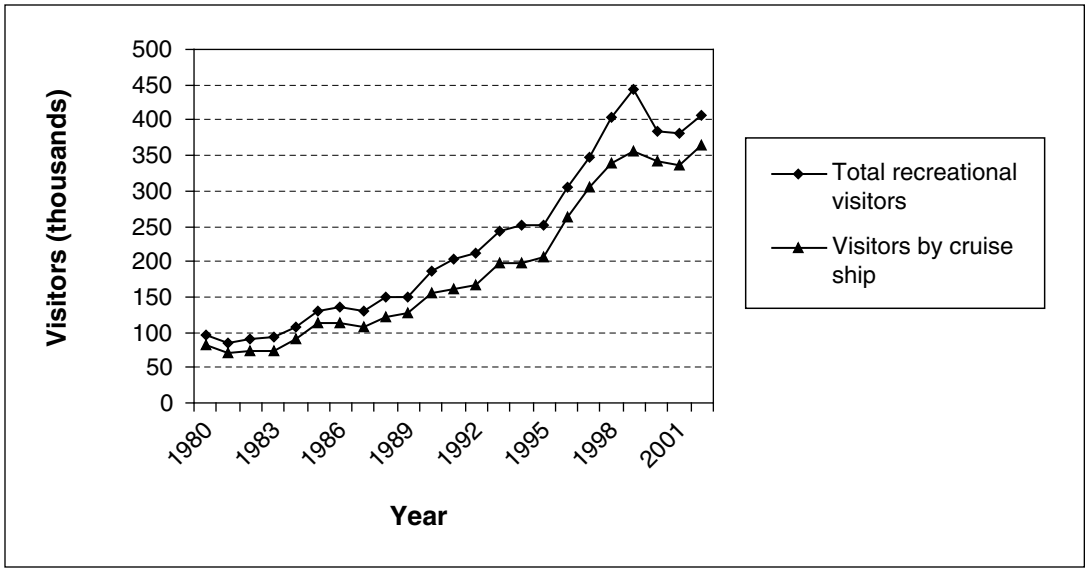

Figure 9—Total recreational visits and cruise ship passengers to Glacier Bay, 1980–2002. (Source: Glacier Bay Concessions 2005.)

destination for cruise boats visiting southeast Alaska. Recreational visitation to the park has risen from about 95,000 in 1980 to about 408,000 in 2002 (fig. 9) (Glacier Bay Concessions 2005).[18] In 2002, nearly 90 percent of park visitors arrived by cruise boat, compared to 85 percent in 1980. Typically, large cruise ships spend one day in the park and approach the faces of the tidewater glaciers. The National Park Service provides interpreters on board the ships while they are in the park boundaries. The number of cruise ships allowed in the park has been regulated since the 1980s to protect the marine wildlife and the wilderness character of the park. Although the number of cruise ships entering the park has been limited, the size of ships has not. Cruise ship companies have replaced older ships with larger ships, enabling them to bring more passengers into Glacier Bay under existing quotas (fig. 10). The new cruise ships entering service carry approximately 2,200 to 2,400 passengers.[19] As the larger fleet comes into service, cruise boat visitation could increase almost 50 percent under present park regulations.

[18] This figure tracks visitation to Glacier Bay proper and is complete for all cruise ship passengers and for other visitors coming into the park during the May through September tourist season. Cruise ship crew are not included. Small numbers of independent visitors using other parts of the park or entering the park in the off-season may not be recorded in these data. Use of Glacier Bay by commercial fishers is not reflected in this total. Some subsistence use of Glacier Bay, primarily by Tlingit residents of Hoonah, also takes place.

[19] The Panama Canal sets a limit for cruise ship size. The largest ship that will fit through the canal can hold 2,400 passengers with about 1,000 crew. Ships sailing to Alaska typically winter in the Caribbean, requiring transport through Panama Canal. A number of new cruise ships are larger than this "Panamax" limit and carry 3,600 passengers. Cruise ship business decisions may one day put ships of this size in the Pacific market.

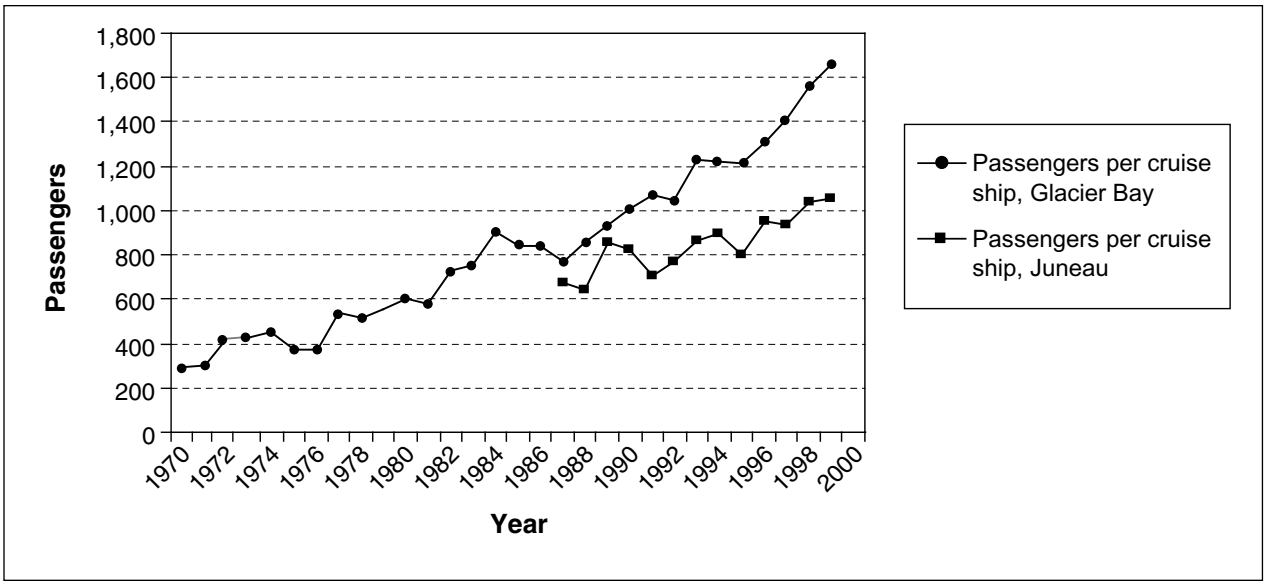

Figure 10—Mean cruise ship capacity, Glacier Bay, Juneau. (Source: Glacier Bay Concessions 2005.)

Other park visitors tour the park in smaller tour vessels that embark from the park headquarters in Bartlett Cove. In 2002, nearly 17,000 visitors experienced the park by day-tour vessel (USDI NPS 2003). In addition, a small number of visitors, (fewer than 1 percent) came to the park in their own vessels, either powered boats or kayaks. Only 30 private boats are allowed in Glacier Bay at any time during the June through August season. Private boats get permits for a 1-week stay. In recent years, about 300 private boats have been able to enter Glacier Bay during this season.

Noncruise ship or tourist-vessel travel in the park is limited through regulation and difficulty of access. Backcountry use increased between 1980 and 2002 (fig. 11), but fewer than 3,500 visitors per year use the park in this way. This use level is stable or slightly declining in absolute terms. Relative to overall visitation, backcountry visits represented less than one half of one percent of total visitation in 2002.

Because Glacier Bay National Park and its tidewater glaciers continue to be a prime tourist attraction in southeast Alaska, there will be pressure from industry to increase cruise ship visitation to Glacier Bay. Throughout the 1990s, cruise ship companies increased visitation by using larger vessels, expanding operation into May and September, and by working with park management and the Alaska congressional delegation to raise the quota for cruise ship entries. However, recent management decisions to limit visitation have limited tourism growth. The Park Service increased the number of cruise ships allowed into Glacier Bay from 107 to 139 in 1997. The National Parks Conservation Association then filed a lawsuit arguing the need for an environmental impact statement (EIS). The U.S. Court of Appeals agreed in 2001,

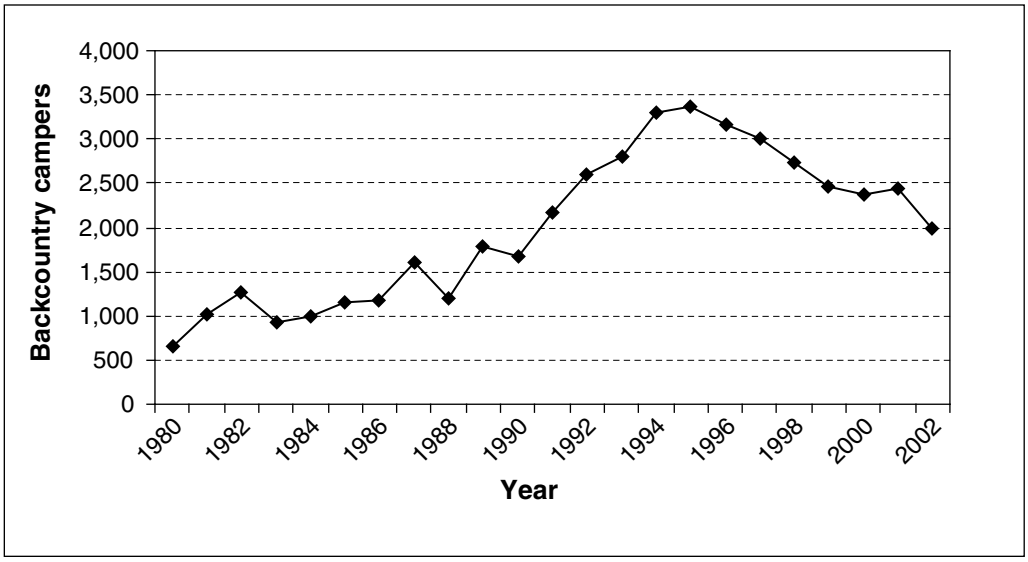

Figure 11—Glacier Bay backcountry overnight use, 1980–2002. (Source: Glacier Bay Concessions 2005.)

ruling that cruise ship traffic should return to 1996 levels. To circumvent this reduction, Alaska's U.S. Senator, Ted Stevens, included an amendment to a 2001 appropriations bill for the U.S. Department of the Interior that held cruise ship visitation at 139 annually until the EIS was completed. The 2003 Record of Decision from the final EIS stated that cruise ship visits would be held at 139 annually, with the possibility to increase to a limit of 187, or two ships per day. These limits imposed on Glacier Bay could constrain overall tourism growth in the region. Cruise ship companies have expanded their businesses by diversifying their itineraries to include other tidewater glaciers; ships visit the Tracy Arm and Yakutat Bay-Disenchantment Sound fjord systems[20] and have runs that visit the Columbia Glacier in south-central Alaska.

Juneau Ice Field Helicopter Tourism

Helicopter touring on the ice field above Juneau has become a popular shore excursion and major business in the last 15 years. Visitors are bussed to heliports and take a short helicopter flight before landing on glaciers. In 2000, four helicopter companies were providing flight-seeing excursions that included landings on the ice field. Once on the ice field, tourists are taken on interpretive walks, limited ice

[20] According to the Yakutat Tlingit Tribe, between 120 and 140 cruise ships visited this area in 2000. The tribe has concerns that ships disturb harbor seals during the pupping season and adversely affect subsistence hunting for this species.

climbing, dog sled rides, and other activities. Because the ice field is part of the Tongass National Forest, tour operators need permits from the U.S. Forest Service. Helicopter touring grew from carrying fewer than 2,000 tourists in 1984 to more than 88,000 in 2001 (fig. 12) (USDA FS 2002: A-3). The number of total flights has grown modestly, owing to limits on glacier landings imposed by the Tongass National Forest. In 2002, 19,039 landing permits were allocated to the helicopter touring companies. This cap was set in 1995, but based on the annual reports from each touring company, the actual number of landings has been lower than the allocated number (fig. 12) (USDA FS 2002: 1–8). However, total visitation has increased because operators switched to larger helicopters to cut costs, increase capacity, and reduce noise impacts while continuing to meet permit requirements.

Helicopter landing tours are heavily marketed on cruise ships and extremely popular with cruise ship visitors, who make up most of the clientele.[21] Helicopter traffic to and from the Juneau ice field has resulted in strong opposition from citizen

[21] Trip costs to the visitor range from about $200 for the regular flight and landing to about $400 for the dog sled ride, making this a $20 to $25 million business exclusive of souvenir sales. Cruise ships retain an estimated 25 to 45 percent of this gross revenue as booking commissions.

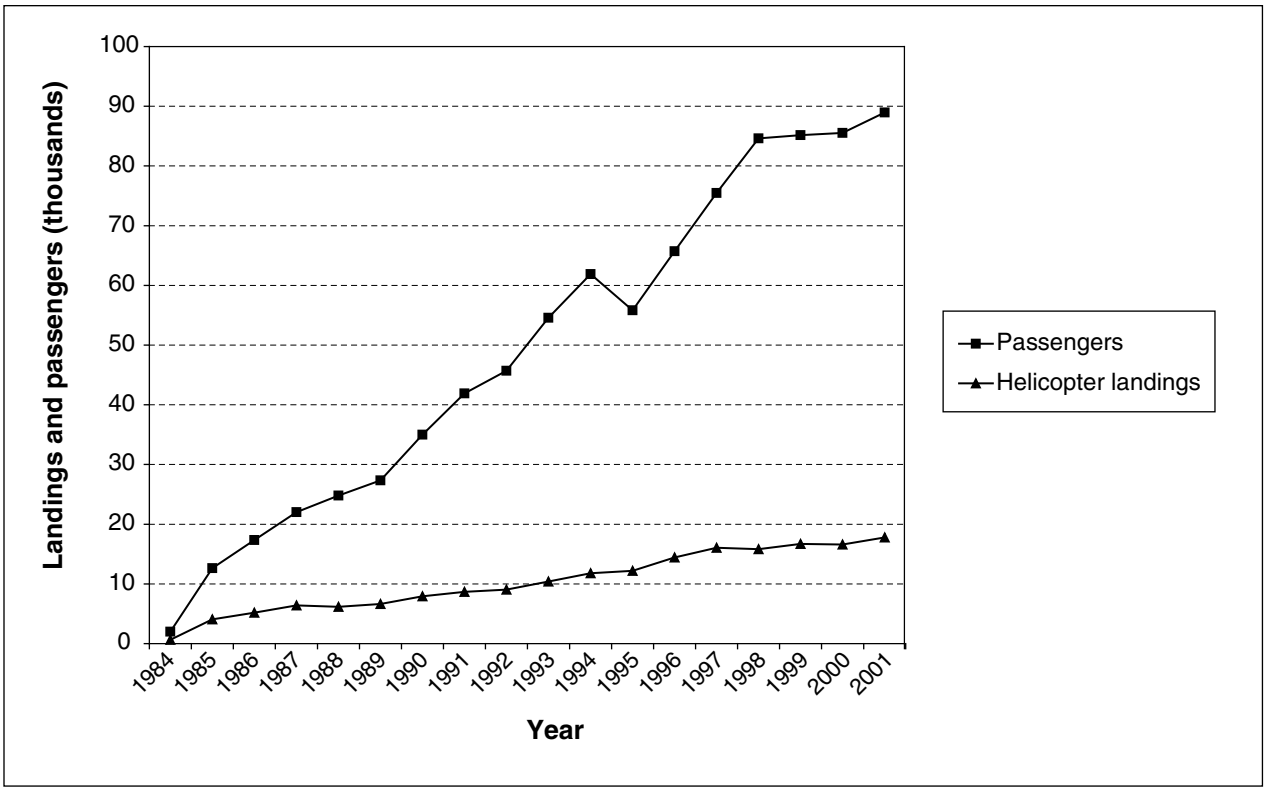

Figure 12—Juneau icefield helicopter landings and passengers, 1984–2001. (Source: USDA FS 2002.)

groups, which object primarily to noise over Juneau neighborhoods.[22] Helicopter flight-seeing businesses used existing heliports near the Juneau International Airport, which required flying over residential areas. In the early 1990s, the number of helicopter flights was more modest and public objections were limited. As the flights gained popularity throughout the 1990s and the on-glacier options expanded, there was pressure to increase landing opportunities. Opposition from grassroots organizations forced lively public discussion after 1999. Voluntary mitigation efforts initiated by the helicopter companies have alleviated some concerns. Further growth of helicopter tourism will require better negotiation of community impacts and community-based planning to minimize noise concerns. The helicopter situation highlights the unintended consequences of unplanned growth.

Charter Boats and Sport Fishing

Nonresident sport fishing has increased with the general increase in tourist visitation to southeast Alaska and has received a further boost from depressed salmon and other sport-fish stocks in other fishing destinations on the West Coast. Since 1991, more sport-fishing licenses have been issued to nonresidents than to residents (fig. 13). Statewide, 1.5 nonresident fishing licenses were issued for each resident sport fishing license in 2002. Visitors participate in charter fishing as part of an on-shore cruise ship excursion when their cruise ship is in port or at dedicated sport fishing lodges, where they may fish for 3 or 4 days. The number of charter vessels in the region reflects this increase in nonresident sport fishing. Growth in nonresident sport licenses statewide has increased at the rate of 6.4 percent annually from 1980 to 2002, compared to 1.7 percent for resident licenses. The number of licensed charter vessels in southeast Alaska has increased nearly 10-fold, from roughly 139 boats before 1982 to nearly 1,300 in 2002, representing an average annual growth rate of 12 percent for this 20-year period (ADF&G 2003a). Part of this increase is likely a result of changes in the licensing requirements initiated when the Commercial Fisheries Entry Commission became the regulating agency in 1989, rather than the Alaska Department of Fish and Game. Some of the increase may also have been

[22] A referendum aimed at curtailing impacts of helicopter tourism failed in fall 2000 and in fall 2001. At the same time, helicopter companies have requested the U.S. Forest Service to permit a larger number of helicopter landings. The Forest Service froze the level of permitted landings at 19,039 for the 2001 season, with further study and community participation underway. Helicopter companies have changed flight paths to limit ground noise, and some companies have switched to quieter equipment. This has lessened but not eliminated noise in residential areas or the ire of persons affected.

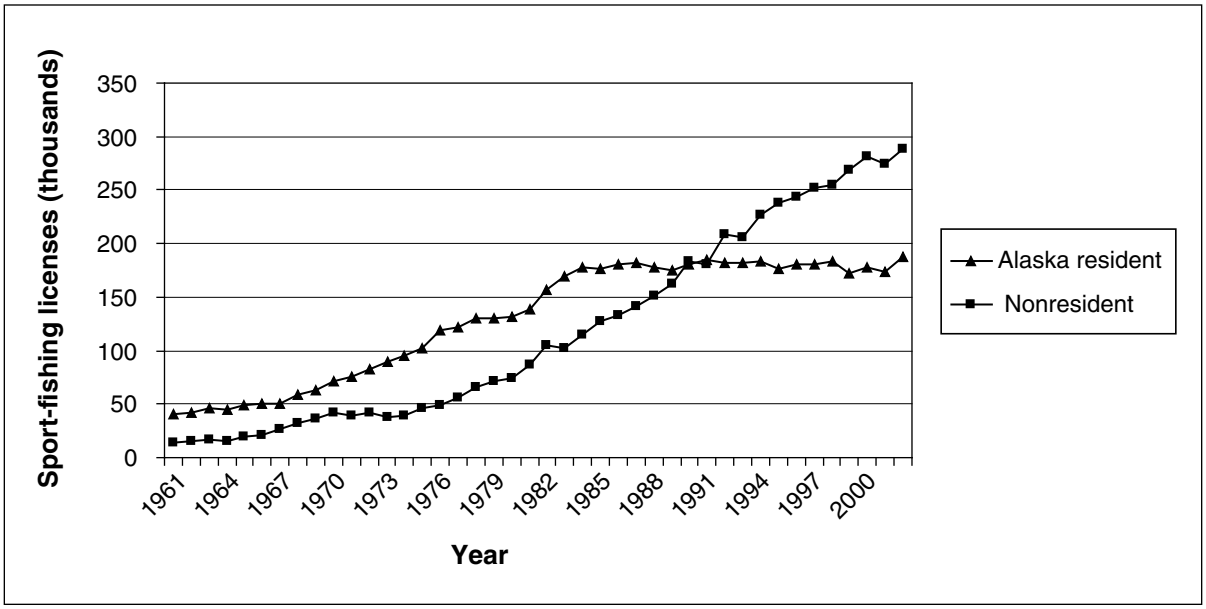

Figure 13—Number of sport-fishing licenses issued by Alaska Department of Fish and Game, 1961–2002. (Source: ADF&G 2001, 2003b.)

strategic. People may have registered their boats as charter vessels anticipating that the licensing of boats might be restricted in the future (ADF&G 2003a).[23]

Estimated harvests of king (Chinook) salmon (*Oncorhynchus tschawytscha*) by sport fishers have also increased between 1987 and 2001 (fig. 14). Survey data indicate that in 1998, nonresidents caught 1.3 times the number of king salmon taken by residents (fig. 15) (ADF&G 2003a). Relative to the sport-fish take, fish stocks are healthy and abundant, although there are several conflicts between this growing tourism activity and local residents' ways of life. Nonresident fishing effects take place near communities with strong charter fishing fleets. Some residents have a sense that charter boat fishing intensity and nonresident fishing pressure may cause local depletions of fish populations in areas close to communities (Cerveny 2005).

Mendenhall Visitors' Center

Visitation to Mendenhall Visitors' Center in Juneau has also increased steadily since 1986 (fig. 16). The center, maintained by the U.S Forest Service, shows only modest increases in visitation in recent years. About 324,000 people visited the Mendenhall Center in 2001. These visitation rates do not track the growth of tourism in the region. Center managers note that cruise operators may not actively

[23] These figures may not accurately reflect the number of fishing vessels actually engaged in sport-fishing operations. Some estimates suggest that 50 percent of registered charter vessels are actively sport fishing.

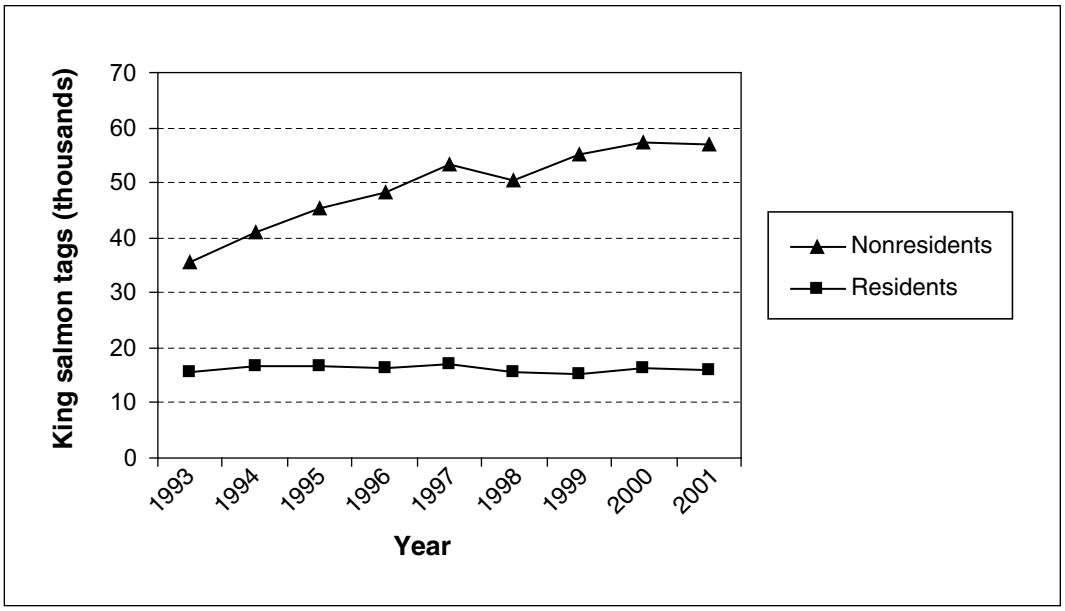

Figure 14—Number of king salmon tags sold in southeast Alaska. (Source: ADF&G 2003a.)

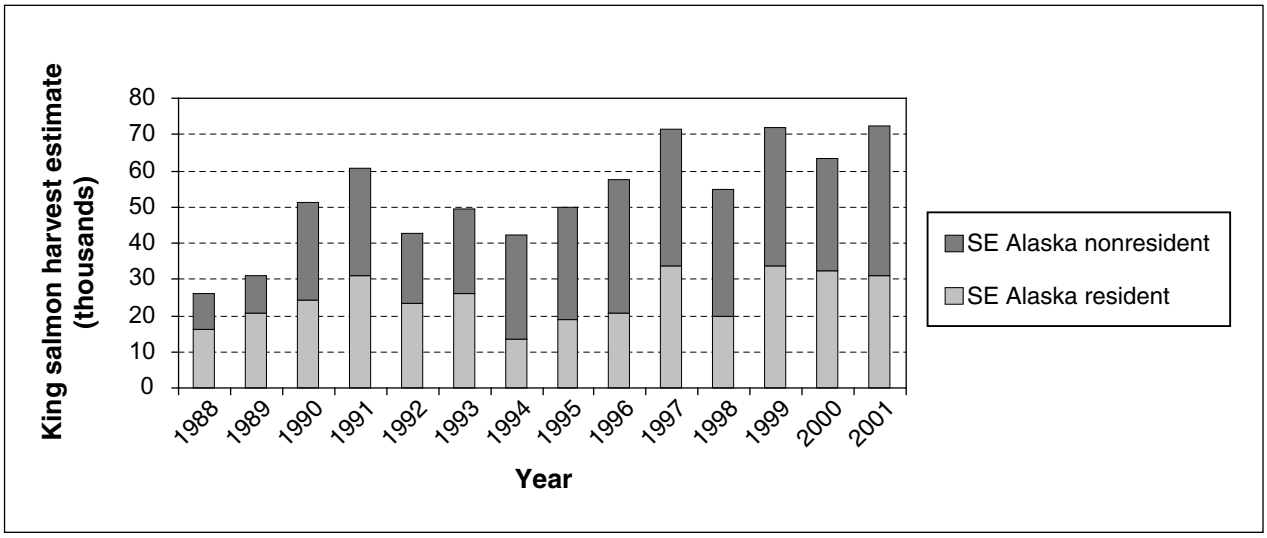

Figure 15—Estimated king salmon harvest in southeast Alaska, 1988–2001. (Source: ADF&G 2003a.)

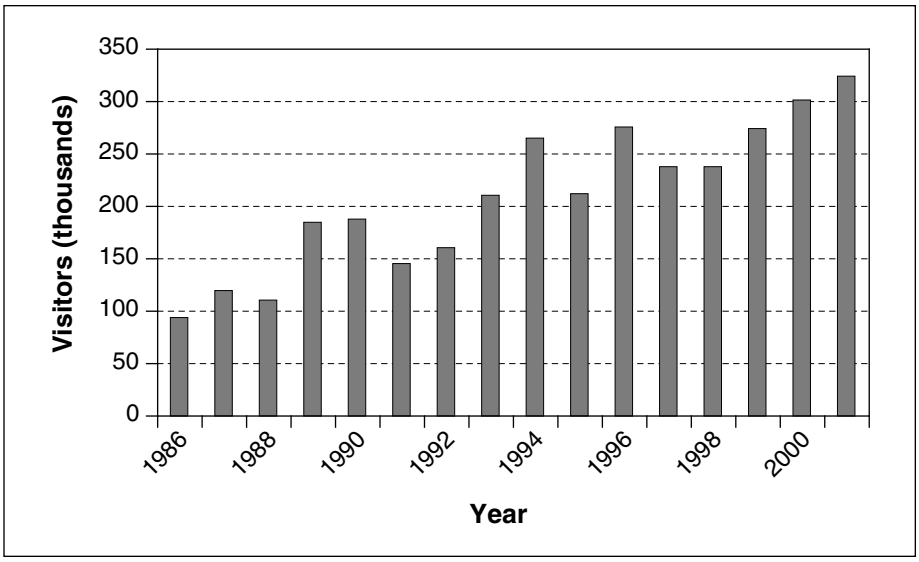

Figure 16—Visitation at Mendenhall Visitor's Center, 1986–2001. (Source: USDA FS 2003.)

encourage passengers to visit the center, but instead urge visitors to purchase shore excursions that provide lucrative booking commissions for the cruise companies. Alternatively, the center has not found ways of presenting itself as premiere attractions that can compete with other attractions for tourists' attention.

Stan Price State Wildlife Sanctuary, Pack Creek Brown Bear Viewing Area

Pack Creek provides visitors with the opportunity to observe brown bears in their natural habitat, often at close range (fig. 17). Pack Creek, located on Seymour Canal on the east side of Admiralty Island, has been managed as a dedicated bear viewing area. Hunting brown bears at Pack Creek and in adjacent drainages that provide habitat for Pack Creek bears has been prohibited since 1935, although the area remains open to other types of hunting and trapping. At Pack Creek, the U.S. Forest Service and the Alaska Department of Fish and Game carefully manage bear-human interactions. Over time, the bears using this area have become habituated to the controlled human presence. The number of visitors is limited, and visitors are restricted to specified viewing areas and connecting trails. This people management allows visitors to observe bears fishing, foraging, playing, and otherwise interacting with each other. Bears are typically seen close to the observation area in the Pack Creek intertidal zone; visitors are frequently within 20 feet of bears at this location and at the inland observation site perched over Pack Creek. Visitors reach Pack Creek mainly by charter floatplane and come either as independent travelers or as part of guided tours.

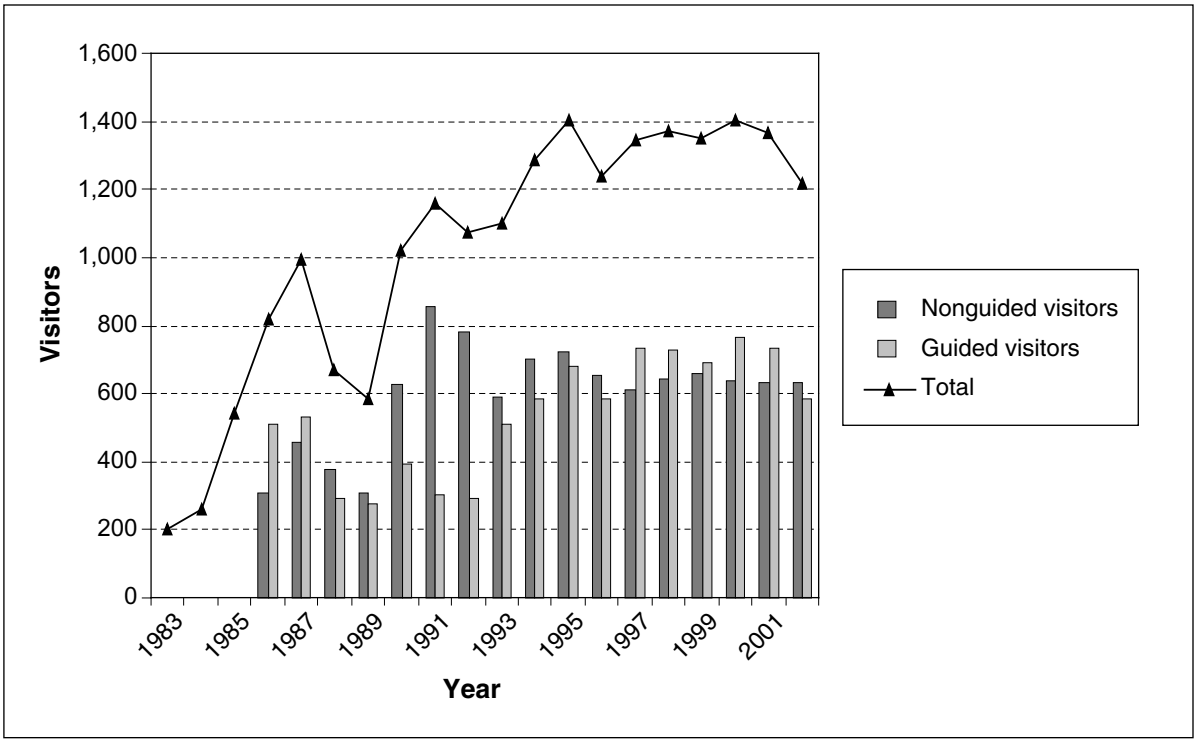

Figure 17—Visitors to Pack Creek, Admiralty Island National Monument, 1983–2002. (Source: Humphrey 2002.)

The number of visitors to Pack Creek has been capped at 1,400 during the bear viewing season when bears are feeding on returning salmon. This cap limits the impact of wildlife viewing on the bears and maintains the character of the viewing experience at this site. Fifty percent of the available permits for bear viewing are allocated to guided tour operations. The ADF&G and Forest Service managers of this site expect it to be fully booked during the prime bear observation season. Permit fees support management. There are no immediate plans to expand visitor capacity or to develop other areas for dedicated bear viewing.

The popularity of this site matches with general visitor interest in Alaska's charismatic land mega fauna. However, visitor sites like this are likely to remain somewhat exclusive and are unable to serve the number of tourists that currently visit the region. Tourism companies are limited in their ability to provide high-quality bear-viewing opportunities for large numbers of visitors. Bear viewing is limited because bears will not tolerate large numbers of humans; consequently this activity may be at its participant capacity.[24]

[24] Whale watching has a little more flexibility. Tourists have a high likelihood of seeing humpback or killer whales while cruising southeast Alaska waters, and whale watching boats work the waters near Juneau, Sitka, and the entrance to Glacier Bay in search of leviathans. These are popular shore excursions; whales can typically be found in these locations on short tours.

Examining visitor trends in the above-mentioned nature-based attractions provides a snapshot of visitor experiences throughout the region. There is some concern that visitation to Glacier Bay National Park, Juneau Ice Field, and the Pack Creek Viewing Area has approached or met maximum capacity. Future visitor growth to these attractions is limited by federal agencies managing these resources. These agencies make decisions about visitation based on social, physical, and biological effects of various activities. Charter fishing has seen rapid growth, as evidenced by nonresident license sales, the number of registered charter vessels, and harvest levels by sport fishers. Growth in this activity has been managed to some extent by state agencies allocating harvest levels to commercial and sport fishers, and specific harvest restrictions that protect certain fisheries. Visitation to Mendenhall Glacier has not been limited by any agency regulations. However, tour visits to Mendenhall Glacier compete with numerous other on-shore activities in Juneau. Tours heavily marketed by cruise ships may overshadow visitation to public visitor centers and museums.

The Effects of Tourism on Local Economies in Southeast Alaska

Economic analyses of tourism are challenging because the sector is not explicitly defined in economic statistics. This difficulty in classifying the industry is inevitable because tourism is not a single product or even a collection of products; it spans a wide range of goods and services, many of which are also consumed by local residents, business travelers, or others whose actions are not connected to the tourism industry. Even without statistics that directly measure tourism activity, however, we can draw some reasonable inferences by examining data that are available for economic sectors most closely connected to tourism. A new industry classification adopted by the state of Alaska in 2002 for "leisure and hospitality" will allow improved analysis of this industry.

Large cruise ships are the dominant element in tourism in southeast Alaska. The ships bring many travelers who are eager to experience Alaska's natural, cultural, and historical resources. At the same time, the ships also bring a substantial portion of the tourist infrastructure. Food, lodging, souvenir sales, and entertainment are all provided on board. A cruise ship visitor could visit and leave southeast Alaska without setting foot ashore or directly spending in the local economy. In practice, the cruise ship industry promotes shore excursions as an integral part of the visitor experience. These shore excursions provide key revenue for the cruise ship companies that either run shore tours themselves or charge tour operators substantial booking fees for selling tours on board. Local entrepreneurs participate by developing and

offering products that are attractive to cruise ship passengers; these include guided outdoor experiences, local artwork and handicrafts, as well as jewelry, curios, and T-shirts, some of which are manufactured overseas. The success of local businesses depends on their ability to market their products with the cruise ship companies; the larger shore excursion businesses generally depend on their corporate booking agreements.

In addition to cruise ship passengers, many independent travelers visit the region each year. Although significantly fewer in number than cruise passengers, these independent visitors are thought to spend considerably more money in the region through purchases of food, lodging, and related expenses. Independent travelers also form the customer base for the region's more intensive guiding activities, such as sport fishing, bear hunting, and back-country tours, and for the many remote lodges that combine accommodations with guided and unguided outdoor activities.

Indicators of Direct Employment in Tourism Sector

Given the distribution of tourism activities outlined above, we expect most tourism growth in the region to be manifested in retail activity, selling souvenirs to cruise passengers, and short-excursion guided activities that also cater to the cruise ship companies and their guests. Growth in employment and income in these areas would, in turn, result in growth in related service and distribution sectors serving the tourism industry and its employees.

The first set of data we can draw on is provided by the Bureau of Economic Analysis' Regional Economic Information System (hereafter referred to as the REIS data), which contains data on employment and income for all U.S. counties (USDC BEA 2000). Table 12 displays information related to employment in the services and retail sectors for the boroughs of southeast Alaska. Services and retail were hypothesized to be the sectors that would most directly be impacted by recreation and tourism (transportation is another likely candidate, but it makes up a smaller proportion of the total economy, and its link to tourism is perhaps less direct). The data are reported in terms of average annual employment growth from 1985 to 2000; services and retail shares of total 2000 employment; and annual growth in those shares from 1985 to 2000.

Several observations that may be linked to tourism can be made from table 12. First, the regional average annual growth in services and retail sectors and, especially, growth in their shares exceeds the national average. This may well be indicative of an increasing regional concentration in the tourism sector. It should be noted, however, that the 2000 regional shares for these sectors are still below the

Table 12—Retail and services employment in southeast Alaska and United States, 1985–2000

Borough or census area	Services employment			Retail employment		
	Growth[a]	Share of total	Growth[a] in share	Growth	Share of total	Growth[a] in share
			Percent			
Haines	9	37	6	3	18	1
Juneau	4	29	2	3	14	1
Ketchikan Gateway	3	26	1	2	15	1
Northern Boroughs[b]	6	25	3	5	15	3
POW-OK[c]	7	18	5	5	14	3
Sitka	4	29	3	2	13	1
Wrangell-Petersburg	3	16	3	2	12	1
SE Alaska total	5	27	3	3	14	1
Alaska	4	28	2	3	15	1
United States	4	32	2	2	16	0

[a]Average annual growth calculated by logistic regression.
[b]Borough jurisdictions in northern southeast Alaska have changed several times. The "Northern Boroughs" are an aggregate designed to produce a consistent time series. Currently included boroughs are Skagway-Hoonah-Angoon Census Area, Yakutat Borough.
[c]Prince of Wales-Outer Ketchikan Census Area.
Source: USDC Bureau of Economic Analysis, REIS (2000).

national average. Hence, another interpretation is that the region, through its normal growth and evolution, has simply been catching up with the national economy in terms of a shift to these sectors. The figures differ considerably when viewed on a borough-by-borough basis, but generally we see concentrations and expansion in Haines and the northern boroughs. These boroughs are at the northern end of the Tongass National Forest, and the latter includes the busy cruise ship port of Skagway. In contrast, Wrangell-Petersburg Borough and Ketchikan Gateway Borough exhibit slower growth in the retail and services sectors, and along with Prince of Wales-Outer Ketchikan, Wrangell-Petersburg Borough also shows lower concentrations in the retail and service sector. Juneau exhibits slower growth rates and lower shares than one might expect for a tourism hub, but this may be because the preponderance of government employment in Juneau's relatively large local economy overwhelms any statistical evidence signaling changes in tourism.

Although the REIS data give no firm indication of tourism development, they do generally support the conclusion of overall growth in the sector with concentrations in the northern end of the region. To further explore the economic ramifications of tourism growth, we used local employment data collected by the Alaska Department of Labor (hereafter termed the ADOL data). The ADOL data are collected monthly

and based on unemployment insurance payments by Alaska employers. They are reported for specific industries (at the 4-digit standard industrial code—or SIC—specification)[25] in municipalities or small groupings thereof. For the current study, these data have been aggregated to the borough level. Because they rely on unemployment insurance rolls, these data do not include proprietors (self-employed), an important and growing portion of the region's employment mix.[26] Consequently, the ADOL data cannot be relied on for completely accurate tallies of employment in any given sector, but the data can still be used to examine relative growth rates and concentrations across business sectors and communities.

Although the ADOL data provide industry detail, they do not identify tourism employment in sectors where both tourists and nontourists are served, such as restaurant and hotel sectors. In the following analysis, those sectors which are thought to be, for all practical purposes, exclusively devoted to tourism are combined to construct a tourism proxy. Figure 18 displays the proxy's constituent sectors along with their respective SIC codes. Although certain sectors, souvenir and jewelry stores for example, are well represented in the proxy, other tourism sectors, such as fishing charter operators, and more general retail and service sectors are not included. Also, owing to data inconsistencies, nonscheduled air transportation (SIC 4522) is omitted. Along with other activities, this sector includes flight-seeing, a major tourist activity throughout the region and especially in Juneau. Consequently, the tourism proxy cannot be used to accurately describe the composition and magnitude of the tourism sector as a whole, but, assuming that the proxy's behavior reflects that of the broader tourism sector, it can be used to identify trends and the distribution of tourism activity between local communities.

Table 13 displays tourism proxy levels for the southeast Alaska boroughs. Average regional growth in the tourism proxy since 1981 has been approximately 12 percent annually, as compared to 2 percent annually for total employment. Admittedly, this is from an extremely low initial level, and the proxy's total share of regional employment remains just 4 percent. The proxy, however, represents a

[25] Many statistical agencies, the Alaska Department of Labor (ADOL) included, have recently abandoned the SIC industry codes in favor of the recently created North American Industry Classification System (NAICS). The data used in this analysis were reported prior to the adoption of NAICS, and all references to industry classification codes in this report refer to the old SIC system.

[26] Many commercial fishers fall into the proprietor category, and thus the ADOL data do not adequately report this sector. The REIS data indicate that the share of proprietors in total regional full- and part-time employment has increased to a current level of approximately 26 percent from 12 percent in 1970. Since the fishing industry was largely developed by that time, much of growth in proprietors likely occurred in the retail and service sectors, sectors which are most strongly associated with tourism. Consequently, the ADOL data will miss this component of the tourist economy, and ADOL statistics reporting growth and shares should be viewed as conservative.

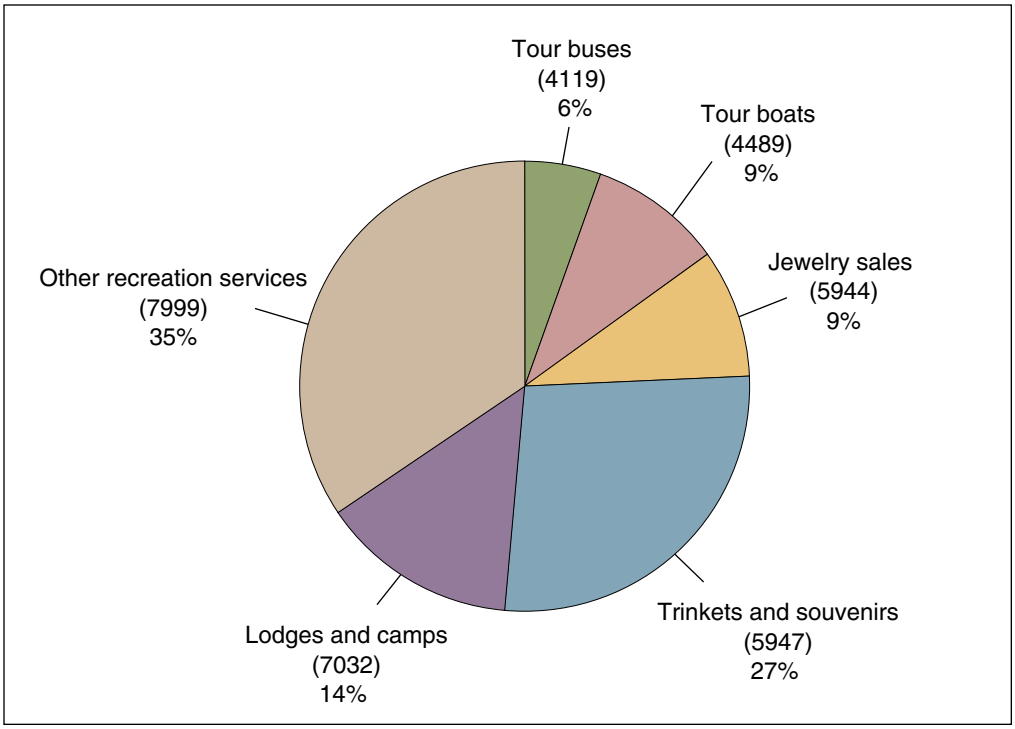

Figure 18—Tourism proxy component industries (SIC codes) and their shares, 2001. (Source: ADOL 2001.)

Table 13—Borough tourism employment proxy levels, share and growth, 1981–2001

	Tourism employment proxy		Annual growth in employment 1981–2001	
Borough or census area	**2001 level**	**2001 share**	**Tourism proxy**	**Total employment**
	Number		*Percent*	
Haines	137	16	20	2
Juneau	440	3	10	2
Ketchikan Gateway	276	4	10	1
Northern Boroughs[a]	135	7	11	2
POW-OK[b]	95	5	34	2
Sitka	190	5	16	1
Wrangell-Petersburg	14	1	5	0
SE Alaska total	1,287	4	12	2

[a]Borough jurisdictions in northern southeast Alaska have changed several times. The "Northern Boroughs" are an aggregate designed to produce a consistent time series. Currently included boroughs are Skagway-Hoonah-Angoon Census Area, Yakutat Borough.
[b]Prince of Wales-Outer Ketchikan Census Area.
Source: Alaska Department of Labor (2001).

broader range of activities and sectors, and if the food, lodging, and travel service sectors associated with tourism were included in the current share, it would be much more substantial.

Proxy growth is further displayed in figure 19, which identifies souvenirs (including jewelry) and recreation services not elsewhere specified as the major component.[27] Growth was particularly pronounced in the 1990-98 period, but slowed considerably from 1999 to 2002. This pattern, including the leveling off of growth, is consistent with information presented elsewhere in this document as well as recent anecdotal evidence regarding the tourist sector (Juneau Empire 2004).

Proxy growth exceeds total growth in each of the communities listed in table 13. The percentage share of this growth is highest in Haines and the northern boroughs (which include Skagway). Wrangell and Petersburg have almost no tourism proxy employment (table 13). This is consistent with the borough-level REIS data that indicated depressed levels of service and retail sector growth and

[27] The data are not perfect, and there are important questions regarding the consistency and accuracy of coding of activities, as evidenced by the suspicious interaction between tour buses and lodges and camps in 1990-91. However, the aggregate proxy displays no discontinuities or blatant anomalies.

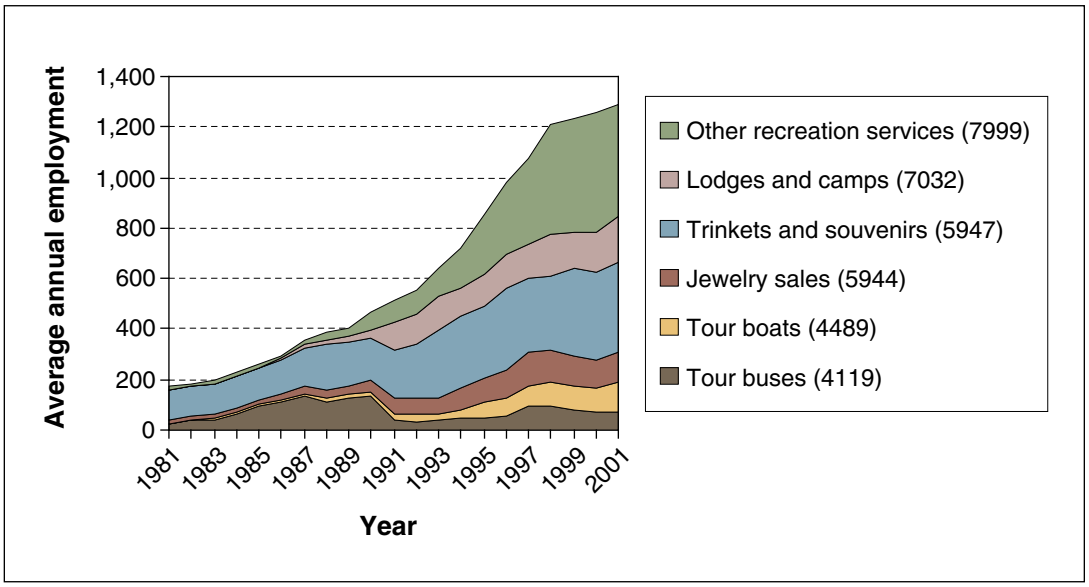

Figure 19—Tourism proxy growth in southeast Alaska by SIC code, 1981–2001: Note: Industry descriptions are approximate. (Source: ADOL 2001.)

concentration. It also supports the claim that, with the exception of Ketchikan (a regional transportation center), much of the tourism activity in southeast Alaska is concentrated in the northern part of the region. Given the partial coverage of the tourism proxy and the lack of proprietor employment in the ADOL data, however, we cannot take this assertion very far. Nonetheless, the data from Wrangell and Petersburg indicate that tourism is not evenly distributed across the region; this, in turn, indicates the influence of cruise ships and their travel patterns in the evolution of the regions' local economies.

Employment in the Tourist Sector

The proxy analysis above reveals a major expansion of the role of services and retail in the regional economy in general, and rapid growth, 12 percent annually, in tourism-related employment in particular. The tourism proxy, however, fails to capture many jobs directly related to tourism. In addition, the total contribution of tourism to the regional economy includes "indirect" employment as firms engaged in tourism buy goods and services from other local firms, and "induced" employment that is generated by tourist sector employees spending their incomes locally. Neither the REIS data nor the ADOL data as treated in the previous analysis give us much indication of the total contribution of tourism to regional employment.[28]

Several studies have attempted to identify tourism's total share in southeast Alaska's regional economy. The USDA Forest Service's Tongass Land Management Plan (1997), for example, estimated that in 1995, direct recreation and tourism employment in the region would be at 2,941, and in total, these sectors would contribute 3,888 jobs (USDA Forest Service 1997). The estimates are expressed in terms of average annual equivalents—or 1 year of full- or part-time employment. Both direct and total estimates were derived by using an input/output model (IMPLAN, Alward and others 1989) based on tourist expenditure information taken from a 1990 survey and then scaled to account for growth in visitation. The implied multiplier (in other words the ratio of the total employment contribution to the direct employment contribution) is 1.32, and the total share of employment attributable to tourism is estimated at approximately 10 percent. This result applies to southeast Alaska as a whole, and no attempt was made to disaggregate results for smaller subregions.

[28] Income is often a preferred measure by economists. Unfortunately, income measures of the same level of detail as the ADOL data are not available, and, in the interests of consistency, employment measures were used throughout. Note, however, that employment and income measures may not directly track each other because many of the jobs in the tourism sector are in lower paying service and retail operations and, in income terms, are not equivalent to the manufacturing jobs they are purportedly replacing.

A report by the McDowell Group (2000) estimates that in 1999, cruise ships in southeast Alaska generated 748 direct employment opportunities in Juneau, 502 in Ketchikan, 335 in Skagway, and 199 in Sitka. In addition, the share of this employment as a percentage of the local (but not the actual level itself) is reported for Haines (11 percent). The report assumes an approximate 2.0 local multiplier for the communities listed in the study, resulting in a total employment contribution of 10 percent for Juneau, 16 percent for Ketchikan, 9 percent for Sitka, and about 20 percent for Haines. Although average tourist expenditures are mentioned as the basis for the estimates, the method of estimation is not explicitly identified in the report.

The two studies mentioned above use estimates of tourist expenditures to estimate direct and total tourism employment. Another approach estimates the relation between changes in tourism-related employment and changes in total employment. Results from an analysis of this type, using the ADOL employment data tourism proxy introduced previously, are presented in table 14.[29] As in the other studies, the estimates of tourism's share of total employment ranges from about 10 to 20 percent, with a regional average of 18 percent, a low of 11 percent for the Wrangell-Petersburg borough, and a high of 21 percent for the Haines borough. The analysis of the tourism proxy in the previous section identified Haines as exhibiting both relatively high concentrations and high growth in tourism sectors, and both Wrangell and Petersburg as communities in which tourism activity is largely absent.

In 2002, the Alaska Department of Labor and Workforce Development created a new industry category of Leisure and Hospitality. This grouping consisted of arts, entertainment, and recreation, as well as accommodations and food services. Although this industry classification is not a perfect depiction of the tourism industry, it does provide an indication of the industry's overall status with respect to other industry categories. In 2002, leisure and hospitality employment represented 10 percent of jobs statewide. Employment in this sector increased an average of 2.8 percent annually from 1990 to 2002, compared to 1.8 percent for total industries. In southeast Alaska, leisure and hospitality generated 10.3 percent of total employment, representing 3,670 jobs (Fried and Windisch-Cole 2004). The proportion of leisure and hospitality employment differed by borough from 5.8 percent in Wrangell-Petersburg to 21 percent (187 jobs) in Haines.

The conclusion drawn from these estimates is largely congruent with the other study results and analysis presented in this report: tourism accounts for about 10 to

[29] Linear regression techniques applied in a pooled time series setting were used to derive these estimates.

Table 14—Estimates of tourism's total employment contribution, 1996

Borough or census area	Level	Share
	Number	*Percent*
Haines	187	21
Juneau	2,996	19
Ketchikan	1,452	18
Northern Boroughs[a]	388	19
OK-POW[b]	398	18
Sitka	742	19
Wrangell-Petersburg	281	11
Total	6,444	18

[a]Borough jurisdictions in northern southeast Alaska have changed several times. The "Northern Boroughs" are an aggregate designed to produce a consistent time series. Currently included boroughs are Skagway-Hoonah-Angoon Census Area, Yakutat Borough.
[b]Prince of Wales-Outer Ketchikan Census Area.
Source: Alaska Department of Labor 2001.

20 percent of total regional employment in southeast Alaska, much of this activity is concentrated in the northern end of the region, and certain localities are much more involved in the tourism trade than others. As other communities begin trying to attract tourists, the distribution of economic benefits is likely to change. Cruise ship docks in Hoonah and Wrangell will bring more visitors and tourist dollars to these communities. Other areas, such as Prince of Wales Island, will likely see increased tourist spending owing to improvements in transportation infrastructure.

Other Economic Estimates

In addition to the employment tracked through ADOL data presented above, employment with cruise lines may account for a number of the jobs in southeast Alaska during the tourist season. Because these boats are foreign-registered vessels, they are not required to report their labor statistics. We can, however, estimate the number of jobs on board these vessels while they work in southeast Alaska waters. This estimation requires several assumptions:

1. Alaska cruises are of variable length, but vessels appear to typically spend about 6 days in southeast Alaska.
2. Total southeast Alaska cruise passengers = about 682,000 (Juneau cruise visitors + 50,000)
3. Cruise vessels have a typical staff-to-passenger ratio of about 0.4.
4. A typical work year consists of 250 workdays.

These assumptions allow the following calculations:
Number of cruise passengers x 0.4 x 6 days = number of cruise staff work-days.
Number of cruise staff work days/250 = number of jobs in approximate full-time equivalent.
Accordingly, 682,000 x 0.4 x 6 / 250 = 6,547.

Based on these assumptions, onboard cruise ship employment results in 6,547 full-time equivalent jobs. At this level, onboard cruise ship employment may be larger than any of the more closely reported economic sectors in southeast Alaska. This employment is in addition to the shore excursion and ancillary tourism employment estimated above.

World Tourism Indicators

After examining tourism trend data for southeast Alaska, we examined national and world trend data to determine if the Alaska situation was unique and the likelihood of cruise volume continuing to increase in coming years. Figure 20 presents trend data in terms of total bed days for the world, Alaska, and the Caribbean for selected years based on data provided by Cruise Line International Association (2003). From 1987 to 2002, world total cruise bed days increased 212 percent from about 20 to 63 million bed days. Alaska's total bed days increased 195 percent from about 1.7 to 5 million bed days, tracking the world increase. Although we do not have data for all individual years, these cumulative rates imply a growth rate of about 7.5 percent per year for both world and Alaska bed days. Industry data anticipate maintaining or increasing this growth rate in the future. From 1980 to 2001, the number of passengers in North America increased at an average rate of 8.4 percent per year (CLIA 2003) (fig. 21); this is slightly lower than the rate of increase in the Alaska cruise segment over this same period. It was during this period that the tourism market in Alaska was expanding from a relatively small base; therefore, it is not surprising that the rate of increase in Alaska exceeded the national average.

We also examined North American cruise ship capacity. Cruise Lines International Association (2003) reports that its members active in the U.S. and Canadian market plan to increase their berth capacity at an average rate of 5.3 percent between 2002 and 2007. This is a slower growth rate than the 8.3 percent increase in capacity averaged from 1981 to 2002 (fig. 22). Cruise ship construction often takes 3 to 4 years, so contracts to increase berth capacity at an average rate of 4.8 percent between 2002 and 2007 have already been established (CLIA 2003).

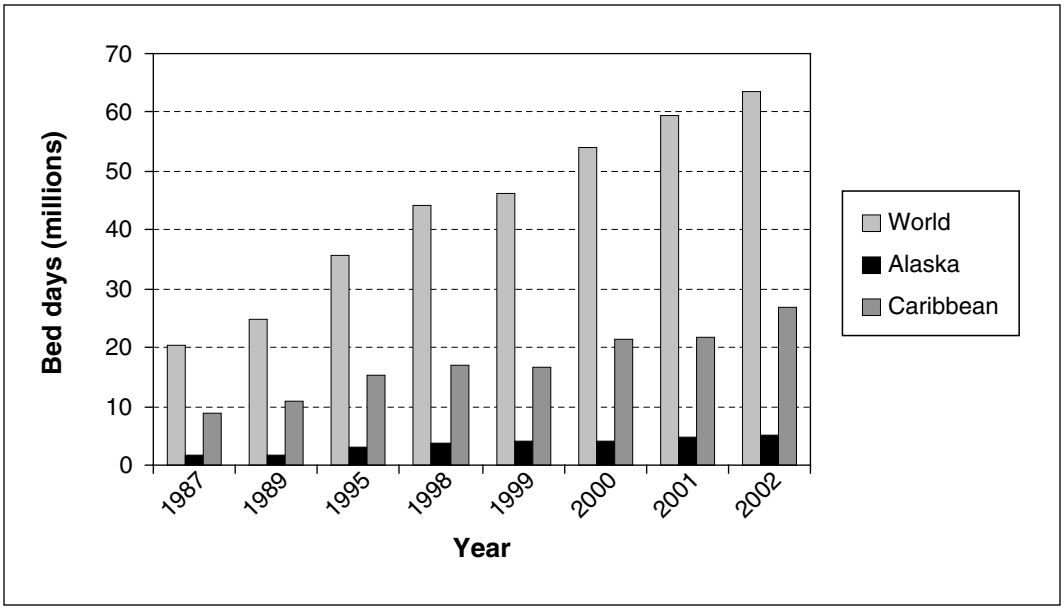

Figure 20—World cruise industry, total bed days, selected years. Note discontinuous time period. World and Caribbean data for all years are not available. (Source: CLIA 2003.)

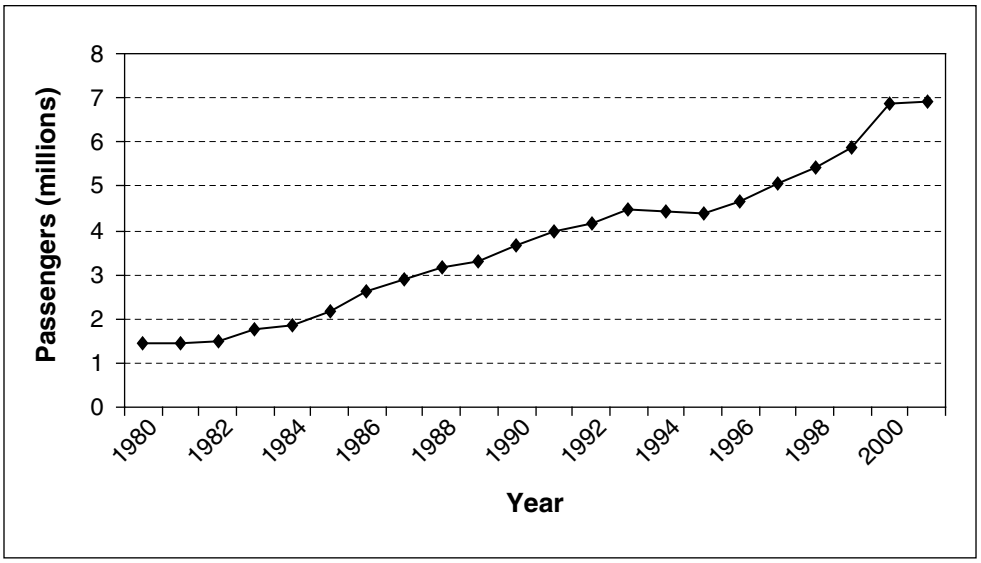

Figure 21—North American cruise passengers, 1980–2001. (Source: CLIA 2003.)

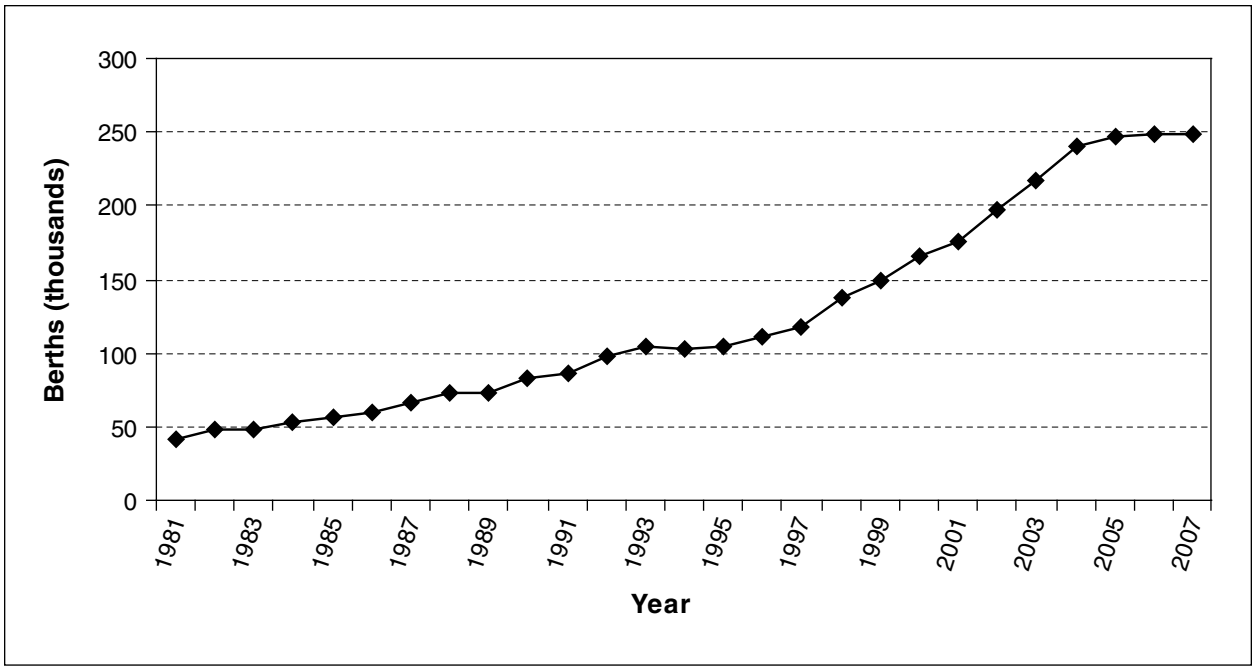

Figure 22—North American cruise berth capacity, 1981–2006 (planned and contracted). (Source: CLIA 2003.)

Discussion

The tourism boom may have significant and lasting effects on southeast Alaska. Tourism has the potential to affect the lives of most of the region's residents, change the region's economic and demographic structure, and extend seasonal tourism activities throughout southeast Alaska. Because of the large scale and geographical spread of tourism, these effects may be as great or greater than the effects of earlier booms, including the establishment and growth of commercial fishing in the late 1800s, the mining boom from 1900 to World War II, the expansion of government services after statehood, and the logging heydays from the 1950s to the 1980s. Cruise ship tourism in southeast Alaska has increased with an annual 10-percent compounding rate of growth in the last 23 years. This growth rate is slightly higher than the comparable growth rate in this tourism segment for North America and our general estimates of worldwide cruise ship industry growth.

Cruise ship tourism continues to expand both in Alaska and globally. Cruise ship companies compete with each other for tourist dollars, but perhaps more importantly, they compete with other destination vacations. Growth in this industry comes from both an increasing number of people willing and able to take upscale vacations and from the cruise ship industry's ability to capture market share within the tourism market. More tourists are finding cruises to be satisfying experiences

that provide good value for money spent. Cruise ship companies have attempted to broaden the appeal of cruising by adding spas, improved exercise facilities, upscale dining, Internet cafes, and improved onboard shopping. In addition to the usual ship attractions, sailings may be themed to attract singles, families, or retirees, or potential passengers interested in jazz, literature, or golf. As companies use larger ships with increasingly diverse sources of entertainment, the vessel itself becomes the destination for some travelers. As international businesses, cruise ship companies may have strong competitive advantages over other vacation possibilities. Their main capital investment, the ship, is mobile. They operate free of many of the stringent labor and environmental laws and safety regulations that control other industries in the developed world. Their port-of-convenience company and vessel registration leaves them largely free of the tax responsibilities borne by shore-based tourism enterprises. Therefore, cruise companies are better able to manage risk, keep costs down, and maintain profits than are land-based businesses.[30]

Constraints and Future Growth

It is beyond the scope of our analysis to determine if global economics or political or social change will reduce cruise ship growth or effect a decline from current levels. However, we note that cruise ship tourism in Alaska could be limited by either some constraint on global tourism or constraints stemming from a particular situation in southeast Alaska. We also note that the Alaska trade occupies cruise ships for about 4 to 5 months of the year, with ships at other destinations in the off months. Changes or slowdowns in these other markets could affect business in Alaska. For example, if cruise ship companies cannot sell their product in their winter markets, they will not be able to maintain or increase their presence in Alaska. Cruising is also growing in other world regions, and cruises to East Asia, Hawaii, Mexico, and the Baltic region could draw potential cruisers away from Alaska.

Unknown factors could reduce this and other forms of tourism; however, the most likely scenarios point to increases in future cruise ship tourism. Cruise lines have marketed their products to an increasingly diverse audience, gearing cruises to a younger, more active demographic. As a result, the average age of the cruise guest has declined steadily from 56 years in 1986 to 52 years (NFO Plog Research 2002). Cruise lines entice younger cruisers with exciting onboard activities and on-shore excursions, such as rafting and glacier climbing. In addition, many cruise guests are bringing families along. According to an industry report 1 million children went

[30] The growth of the cruise ship industry is a fascinating story in itself. See Cartwright and Baird 1999 and Dickinson and Vladimir 1977.

on cruises in 2002 (CLIA 2003). The number of potential cruise ship passengers is likely to continue to rise, especially as the number of active retirees increases. Most cruise passengers to Alaska reside in North America, where the demographic projections for increased cruise travel are positive.[31] Furthermore, the basic economics of cruise ship companies are likely to continue, allowing them to offer attractive tourism products to increase individual market share. Cruise companies may have fewer scale restraints than land-based tourism businesses, and may be able to adjust their capacity to meet demand. For instance, cruise lines were able to respond quickly to the public's reluctance to fly in commercial airlines after the September 2001 terrorism attacks. They increased the number of North American embarkation ports so that customers could more easily drive rather than fly to board a cruise ship (CLIA 2003).

In summary, although there may be some future downturn in the world cruise industry that may affect cruising in Alaska, we have not identified any strong and immediate global constraints on this booming industry. The best expectation is for continued global growth in cruise travel at or above historical rates. Alaska is predicted to maintain its current market share of the global market (8 percent), although the region is experiencing stiff competition for summer cruises in Europe and North Asia.

We have mentioned that cruise ship entries to Glacier Bay are limited by regulation. Cruise ship visits to the main ports of call also may be limited by the amount of dock and anchor space available. For example, Skagway dock space is full when there are five ships in port, and Juneau has space for a maximum of six large ships at downtown locations. Various shore excursions may be at or nearing visitor capacity. For example, the White Pass Railroad in Skagway may reach a maximum volume that it can accommodate during a shore excursion day, and helicopter destinations from Juneau-based tours may have neared visitor capacity. However, both the port capacity and the shore excursion constraints are development issues rather than hard limitations. That is, more facilities can be constructed to accommodate more tourists, and the large ships might start visiting other southeast Alaska communities. New tourism destinations in Hoonah, Wrangell, and Prince Rupert, British Columbia, provide evidence of the spread of cruise tourism to other communities. The built tourism environment in southeast Alaska is minimal but may grow to fill the business opportunities that large-scale tourism provides.

[31] The Cruise Line Industry Association reports that its market size is 128 million Americans, or 44 percent of the total population, that it considers to be of economic means and ability to enjoy a cruise.

There may be limits to the ability of southeast Alaskans to tolerate changes taking place in their communities and environments associated with tourism. In many southeast Alaska communities, discussions about ways to encourage, limit, or accommodate tourism have replaced other resource management topics as both the editorial and the conversational topics of the day. The last few years have seen a number of citizen initiatives or actions to limit tourism impact. Several cities have voted on ballot initiatives to establish a head tax on tourists, including Juneau, Ketchikan, and Yakutat. The state of Alaska has considered a statewide head-tax nearly every legislative session since 2000. In 2000, Haines voters approved an advisory measure to limit the number of cruise ship dockings, and Sitka voters rejected a measure to expand their public dock to accommodate cruise ships. Local initiatives in Juneau and Haines emerged in response to helicopter and floatplane traffic over residential areas. The community of Tenakee Springs distributed leaflets to tourists from a small cruise ship telling them that the community did not want cruise ship visits.

From one perspective, these are signs of resident protests. Residents of communities receiving large tourist influxes are realizing the changes this growing business entails. Although some changes are experienced community-wide, others are confined to particular neighborhoods where tourist activities are concentrated. Moreover, some subsets of community residents appear to be more sensitive to changes in the natural and social environment, whereas others appear willing to tolerate these changes in exchange for economic benefits. The crowding, displacement, and noise problems that sometimes accompany mass tourism are not likely to go away, although they may be mitigated through public measures or voluntary agreements among tourism corporations. For example, resident objections to the emissions from the cruise ship smokestacks and waste systems led to the development of less-polluting cruise ships and the adoption of state air and water emissions standards. Since then, air and water quality has been perceived to be less of a problem. If visitor volumes increase at the projected rate without mitigation by public or private initiatives, these issues and concerns will likely continue to surface.

From another perspective, citizen concerns reflect the challenges faced by public and citizen organizations at the regional and community level to manage or direct tourism growth. Tourism, and particularly the increase in cruise ship volume, develops with less public and government attention than other economic development of southeast Alaska's natural resources has received. Changes in logging, mining, construction of roads, and routing of the Alaska ferry system, for example, all receive intense scrutiny through local media, planning processes, and state and federal regulation. The cruise ship industry largely escapes this scrutiny because

the basic features of its operations, namely the number of people it brings into the region and the places it chooses to visit, are not subject to many local, state, or federal regulations and permits and fall outside established planning approaches.[32] The public process and environmental impact statements that must be prepared before land in the Tongass National Forest is logged or a mine is put in operation, and the state planning procedures that must take place before a road is built ensure public participation in these decisions. By contrast, cruise ship companies may decide to increase or decrease their visitation to southeast communities without involving the public, even if the changes are likely to have serious consequences in a community. Cruise visitation to Juneau and Ketchikan has increased steadily, whereas Sitka has experienced more fluctuation but a positive trend since 2001. Cruise visitation to Haines, on the other hand, declined from about 187,000 passengers in 2000 to 21,000 in 2003. Juneau's ability to influence cruise ship visitation levels has been limited, and community leaders in Sitka and Haines have had little success in convincing cruise ship companies to maintain steady visitation levels.

The economic strength of the cruise lines[33] and their global expertise give them the upper hand in discussions with small southeast Alaska communities, which increasingly depend on the industry for economic survival. Furthermore, because they control booking, cruise ship companies promote some shore excursions and not others. Consequently the cruise ship companies play a significant role in determining what types of shore excursions are developed in a visited community. Shore-based businesses that receive volume bookings from cruise ship passengers thrive; those without cruise ship contracts struggle to compete. The shore excursions and tourist facilities that are developed to meet interests of cruise ship guests may not coincide with a community's image of how it wishes to be transformed.

From this perspective, resident initiatives to deal with tourism problems and to manage tourism growth will continue at least until there are more effective government and other public venues for dealing with this industry. It would be a mistake, however, to equate resident concern about tourism growth or the impact of certain shore activities with general resident opposition to this industry. To date, the strongest citizen initiatives and involvement in the region have concerned limiting noise from helicopters, ensuring a tax return from tourism activities, and controlling the dumping of sewage and human waste in Alaska waters. These issues

[32] A Coastal Zone Management plan, for example, is a way for a community to identify activities that are congruent with community desires. These plans have not generally dealt with tourism effectively. Most plans were completed before the recent increases made cruise ship tourism a dominant force in the region.

[33] On August 4, 2003, Carnival Corporation and Royal Caribbean, the main cruise operators in Alaska, had market capitalizations of $21.5 and $5.5 billion, respectively (Forbes 2003).

are not unique to Alaska. Airports near residential areas often have to address noise issues, and cruise ship companies routinely pay taxes at most of their worldwide ports of call. These citizen initiatives may simply reflect a general need to monitor and direct a large industry that has operated with little oversight.

Projection

There are no guarantees that future trends will match projected trends. We make them nonetheless as a way to anticipate likely change and plan for the probable future. In this respect, predicting a future tourism trend and its attendant demands on natural resources and government infrastructure is similar to predicting future school enrollment or demand for water and power. If we have no formed idea of future tourism levels, we may be unable to accommodate them or influence future tourism development.

Between 1991 and 2003, the average annual increase in cruise ship visitation to Juneau has been about 9.7 percent. Figure 23 projects this rate into the future. Should the 9.7 percentage rate be maintained, the number of cruise ship visitors coming to Juneau, our indicator community for the southeast Alaska region, will nearly double in 7 years. That is, we would expect about 1,469,000 cruise ship visitors in Juneau in 2010 and a similar doubling of cruise ship visitation in other areas of southeast Alaska. Over the past 20 years, the North American cruise market has experienced a growth rate of 8 percent. If we apply this rate to visitation growth, doubling time for the number of cruise ship visitors to Juneau would take about 9 years. Using this rate, we expect over a million cruise ship visitors by 2007.

Because other types of tourism have not increased as substantially, we have not projected any growth in these sectors. Improved publicity and marketing of southeast Alaska's natural resources or enhanced travel facilities geared to the non-cruise-ship visitor could increase the number of independent travelers visiting the region. If the number of independent travelers continues with no or only slow growth, the cruise ship proportion of visitors to southeast Alaska is likely to increase.

Implications of Continued Growth

Likely increase in overall tourism volume suggests that the Forest Service should plan to accommodate, direct, and regulate tourism use of natural resources and public facilities at higher than current levels. From parking spaces and bathrooms to trail capacities and staffing of visitor centers, plausible scenarios may include a doubling of demand within 7 to 10 years. Certain tourism activities may scale up with little difficulty. Perhaps many times the current number of visitors can cruise the Inside Passage or view the Mendenhall Glacier without diminishing the tourist experience or causing serious environmental problems. Other uses of national forest

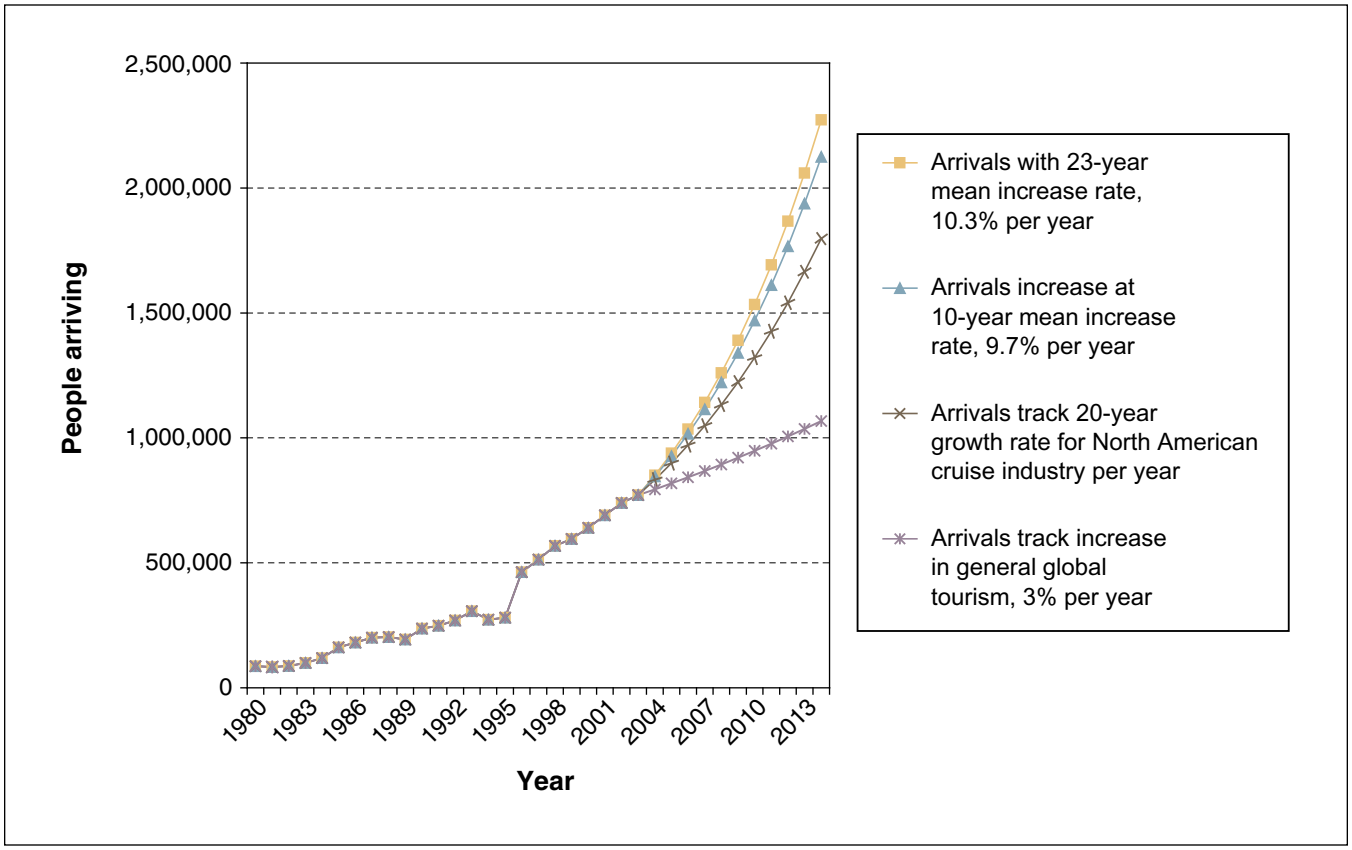

Figure 23—Juneau cruise arrival trends and projections. (Source: Juneau Convention and Visitors Bureau 2000, 2003.)

lands and resources may be currently at or approaching their capacity. We have noted constraints on dedicated bear-viewing areas and on helicopter use in urban areas. Higher tourist volume will likely mean more group experiences on southeast Alaska forests and less opportunity for solitude and isolation in natural areas close to cruise ship stops.

Furthermore, the likely increase in tourism volume suggests a need to further evaluate the Forest Service's role in tourism, as cruise-based tourism becomes a dominant activity on national forest lands. Does the agency encourage, accommodate, or restrict growth of different types of tourist activity? Should the agency permit commercial tourist activities throughout the Tongass National Forest or create noncommercial zones? Should tourist activities be concentrated in specific areas or be dispersed? Should the forest be zoned according to recreational activity? Should national forest land be leased so commercial tourist facilities can be constructed? What priorities should be set for maintaining existing trails, campgrounds, boat ramps, cabins, and roads used for recreation and tourism and for

expanding capacity? How can the effects of increased tourism on subsistence uses be anticipated and limited? Can growing levels of tourism improve the well-being of southeast Alaska communities?

These and other questions have immediate importance for the Tongass National Forest as it is transformed from a major timber-producing forest to a forest where tourism and recreation may be the predominant activities. The forest is still in the early stages of that transition. This presents the opportunity for the agency to work with local, state, and national interests in moving toward a shared vision for southeast Alaska.

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Metric Equivalents

When you know:	Multiply by:	To find:
Feet	0.3048	Meters
Acres	.405	Hectares
Board feet, log scale	.0045	Cubic meters

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