



**THE ECONOMIC IMPACT OF THE
NORTH CAROLINA SKI AREAS
ON THE ECONOMY OF NORTH CAROLINA
2002-2003 SEASON**

Final Report

**Prepared for the
North Carolina Ski Areas Association**

By

Dr. Steven W. Millsaps

Dr. Peter A. Groothuis

**Department of Economics
Appalachian State University**

November 2003

PART ONE

The North Carolina Ski Industry

The North Carolina Ski Industry is located in western area of the state. The seven ski areas included in this study were: Appalachian Ski Mountain, Ski Beech, Sapphire Valley Ski Area, Hawksnest Golf & Ski Resort, Wolf Laurel, Sugar Mountain Resort, and Cataloochee Ski Area. During the 2002-03 season, over 540,000 skier visits were recorded at these ski areas. The aggregate resort revenue from these skier visits was just over 23 million dollars, a 21.6 percent increase from the 2001-02 ski season.

The seven resorts employ eighty-four year-round full-time employees. The seasonal full-time employment is over nine-hundred people plus over eight-hundred part-time people. The annual payroll is almost seven million dollars. Capital expenditures from the seven resorts exceeded four million dollars, roughly double the expenditures for the 2001-02 season.

Table One contains summary statistics for total skier visits, total ski resort revenues, total ski resort employment and total ski resort payroll for various ski seasons beginning with 1976-77, the first year a survey was administered. Figure One illustrates the trend in skier visits since the 1976-77 ski season. North Carolina's 1995-96 ski season still holds the all-time attendance record with over 641,000 skier visits.

Table One

**SUMMARY STATISTICS ON NORTH CAROLINA
SKI AREA RESORTS
(current and selected prior yers)**

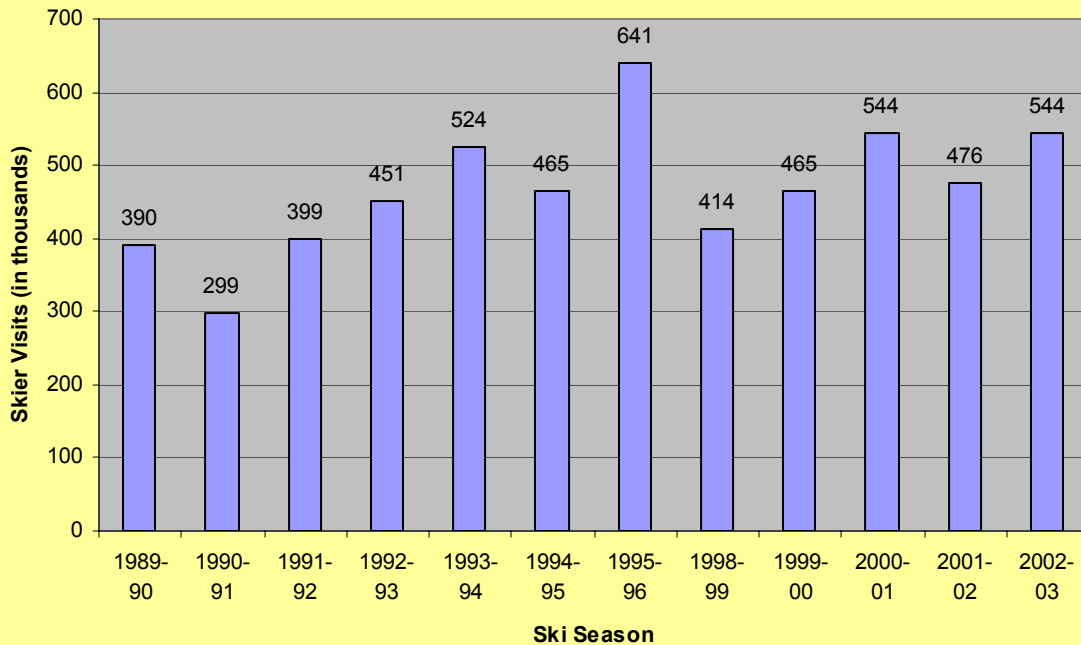
Year	Total Skier Visits	Total Resort Revenues	Total Resort Payroll	Total Resort Employment**
1976-77	338,000	\$5.7 mil.	\$1.4 mil.	760
1985-86	580,000	*	\$3.0 mil.	1,100
1995-96	641,000	\$22.0 mil.	*	1,404
2000-01	544,000	\$21.5 mil.	\$6.6 mil.	1,788
2001-02	476,000	\$18.9 mil.	\$6.5 mil.	1,644
2002-03	544,000	\$23.1 mil.	\$6.9 mil.	1,759

Source: 2002-03 Survey of Ski Area Owners

* Not available

** Seasonal full-time plus part-time employees

**Figure One
Skier Visits to NC Resorts
1989-90 to 2002-2003
(various years)**



PART TWO

The Research Design and Survey Instrument

The expenditures of visitors to the North Carolina ski areas were estimated using a survey questionnaire (see Appendix A). A random sample of skiers and snowboarders at the resort areas were asked to complete the questionnaire while on-site at the resort. The survey was administered during the months of December through February, the majority of the 2002-03 ski season. A total of 261 surveys were completed from five of the ski areas Appalachian, Beech Mountain, Cataloochee, Hawksnest, and Sugar Mountain.

The survey is designed to ascertain skier information in two important areas:

- (1) demographic and socioeconomic characteristics of skiers including their criteria for selecting ski areas, their skiing ability and experience, their evaluation of the quality of their skiing experience while in North Carolina, and their intentions regarding return visits in the future, and**
- (2) expenditures by visitors to the ski areas, including spending at the resort itself (lift tickets, clothing and equipment rentals, parking fees, etc., and expenditures off-resort (food, lodging, transportation expenses, clothing and equipment, entertainment, etc.).**

The expenditure portion of the survey is used to estimate total direct spending by skiers visiting the area. The expenditures were broken down into two categories: Spending Within 25 Miles of the Ski Resort and Spending Farther Away but Still In North Carolina. These two categories summed provide an estimate of direct skier expenditures in North Carolina.

PART THREE

Statistical Summary of Ski Area Participants

The North Carolina ski industry is an economic contributor to the local and state economy through its employment base, through its expenditures on goods and services in the area, and through the spending of visitors to the resort area (both on and off the resort).

Residents from the western part of the state, including a large student population of skiers from local private and state colleges and universities, are within a few hours driving time to one of the resorts. Residents from other Southeastern states are within one day's travel from their homes to the ski areas

Skiers in the North Carolina Ski Areas come from as far away as California and as close as "I own a home across from the ski area". The average distance traveled to the ski resort was 260 miles. While forty percent of the skiers come from within North Carolina, the majority come from out of state with eighteen percent from Georgia, sixteen percent from South Carolina and fourteen percent from Florida. The mountains of North Carolina have become the winter playground of the South.

Skiers tend to travel in groups to ski resorts with the average group size of nine participants. Large groups are common with as many as sixty participants. Over seventy percent of visitors to the resorts ski, while about twenty percent snowboard and five percent tube. The vast majority, over ninety percent, indicate that the visiting the ski area was their primary motivation for their trip. In addition, ninety percent intend to visit the same ski area next ski season.

Skiers plan to ski an average four days at the resort where they answered the questionnaire and an additional two days at other ski resorts in North Carolina. Skiers to the North Carolina mountains report a wide range of ability with 28% reporting 'beginner skills', 27% 'low intermediate skills', 36% 'high intermediate' and 9% advanced skills'. Eighteen percent report that this is their first ski experience. In addition skiers also plan on shopping, eating at restaurants, visiting other area attractions such as the Smoky Mountains and the Blue Ridge Parkway, and enjoying the winter scenery on their ski trip.

PART FOUR

Statistical Summary of Skier Visits and Expenditures

Aggregate Skier Visit Expenditures

The expenditures per skier visit are summarized in Table Two and Figure Two. In Table Two the average spending in dollars by category (ski resort, lodging, restaurant, etc.) is displayed. The average expenditure was \$124.48 per skier visit broken down as follows: \$117.42 (94.3%) spent within 25 miles of the ski resort and \$7.06 (5.7%) spent farther away than 25 miles but still within North Carolina.

Figure Two displays the percentage breakdown of spending in North Carolina by category of spending. Spending at the ski resort represented thirty-five percent of the total expenditure. Lodging accounted for twenty-one percent of the spending with restaurant expenditures adding another eleven percent. These three categories of spending make up two-thirds of total skier spending in North Carolina.

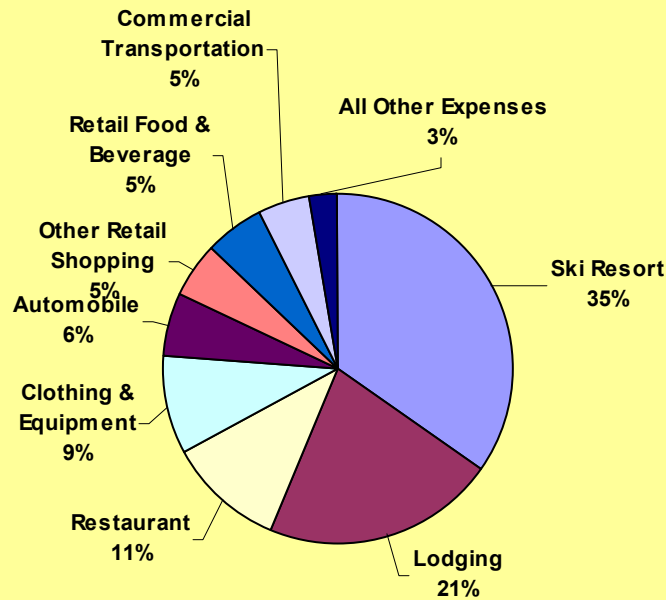
Table Two

AVERAGE SPENDING PER PERSON
2002-03 SKI SEASON

Type of Expenditure	Within 25 Miles of Ski Resort (\$)	Farther Away But Still in NC (\$)	Total Expenditures (\$)	Percent of Total
Ski Resort	43.20		43.20	34.70
Lodging	25.20	1.38	26.58	21.35
Restaurant	12.70	0.70	13.40	10.76
Clothing & Equipment	10.85	0.55	11.40	9.16
Automobile	6.38	1.18	7.56	6.07
Other Retail Shopping	6.17	0.12	6.29	5.05
Retail Food & Beverage	6.02	0.68	6.70	5.38
Commercial Transportation	3.97	2.25	6.22	5.00
Night Club/Bar	1.23	0.12	1.35	1.08
Admission Fees	0.66	0.05	0.71	0.57
Child Care	0.28	0.00	0.28	0.22
Personal Health	0.25	0.03	0.28	0.22
All Other Expenses	0.51	0.00	0.51	0.41
Total	117.42	7.06	124.48	100.00

Source: 2002-03 Survey Questionnaire

Figure Two:
Percentage of Expenditures by Category of Spending
2002-03 Ski Season
(total spending)



Aggregate Skier Expenditures

The total direct spending by category was found by multiplying the average spending per category by the number of skier visits. The results are summarized in Table Three. The results show that skiers spend an estimated total of \$67.7 million: \$63.9 million of this total was spent within 25 miles of the resort and the remaining \$3.8 million was spent farther away but still within North Carolina. Spending at ski resorts received the largest share at \$23.5 million. Lodging expenditures totaled almost \$14.5 million and restaurant spending totaled another \$7.3 million. Spending for clothing and equipment outside the ski resort totaled \$6.2 million. Expenditures for food and beverages consumed away from the resort and not in restaurants totaled \$3.6 million. Retail shopping not included in the previous categories totaled \$3.4 million.

Table Three
TOTAL ESTIMATED DIRECT SKIER EXPENDITURES IN NORTH CAROLINA*
2002-03 SKI SEASON (millions of \$)

Type of Expenditure	Within 25 Miles of Ski Resort (mils. \$)	Farther Away But Still in NC (mils. \$)	Total Expenditure (mils. \$)	Percent of Total
Ski Resort	23.51		23.51	34.70
Lodging	13.71	0.75	14.46	21.35
Restaurant	6.91	0.38	7.29	10.76
Clothing & Equipment	5.90	0.30	6.20	9.16
Automobile	3.48	0.64	4.12	6.07
Other Retail Shopping	3.36	0.07	3.43	5.05
Retail Food & Beverage	3.28	0.37	3.65	5.38
Commercial Transportation	2.16	1.22	3.38	5.00
Night Club/Bar	0.67	0.07	0.74	1.08
Admission Fees	0.36	0.03	0.39	0.57
Child Care	0.15	0.00	0.15	0.22
Personal Health	0.14	0.02	0.16	0.22
All Other Expenses	0.28	0.00	0.28	0.41
Total	63.90	3.85	67.75	100.00

Source: Table Two

* Average Spending Per Person (from Table Two) x 544,219 Skier Visits

The majority of this spending occurs during the months of December, January, and February when local hotel occupancy rates are lowest (about 40% v. 73.5% in July and 67.5% in October). Thus, the economic impact of the timing of the expenditures is as important to the local economy as the amount of the expenditures. Absent the ski industry, local folks in the restaurant business, the lodging business, and the retail shopping business might be in for a cold winter indeed.

PART FIVE

The Total Economic Impact

In Part Four, the direct spending by skiers was discussed. In order to estimate the total economic effect of the North Carolina Ski Industry, we must next consider and estimate the indirect effect of expenditures within the state. The indirect or “multiplier” effect of direct spending generates additional income within North Carolina. When the income of the ski resorts and local businesses rises due to direct skier expenditures on goods and services, they, in turn, increase their own spending. This will generate additional income within the area. The total impact is calculated as the sum of both the direct and indirect impacts.

In this study, we used a multiplier of 1.77.¹ This value implies that each dollar of direct spending generates an additional, or indirect spending, of 77 cents. Direct spending was estimated to be \$67.7 million (see Table Three). Thus, the estimated total economic impact of the North Carolina Ski Industry for the 2002-03 season is almost \$120 million. The indirect effect is estimated to be just over \$52 million.

¹ The indirect or multiplier effect was determined by the minimum requirements technique suggested by Moore: Craig L. Moore, “A New Look at the Regional Trade Multiplier,” *Northeast Regional Science Review*, Vol. 3, 1973, pp. 164-171; Craig L. Moore, “A New Look at the Minimum Requirements Approach to Regional Economic Analysis,” *Economic Geography*, Vol. 51, 1975, pp. 350-356. This multiplier is the same value used in the two previous economic impact studies (1989-90 season and 1995-96 season) conducted at Appalachian. See also R. Kirkpatrick and J. Shogren, “The Economic Impact of Appalachian State University on Watauga County, North Carolina,” November (1988).

Appendices

APPENDIX A
SURVEY INSTRUMENT
2002-2003 ECONOMIC IMPACT SURVEY

PART I: GENERAL QUESTIONS ABOUT YOUR VISIT TO THIS RESORT

1. How many individuals are traveling in your party on this trip (include yourself)? _____
2. In this party, how many individuals are going to: SKI _____ SNOWBOARD _____
SKATE _____ TUBE _____
OTHER (specify) _____
3. Why did you choose to come to this ski area? _____
4. When did you plan this trip? TODAY _____ LESS THAN ONE WEEK AGO _____
1-3 WEEKS AGO _____ 4-8 WEEKS AGO _____
MORE THAN 8 WKS. AGO _____
5. Is skiing/snowboarding the primary reason for this trip to the N.C. mountains? YES__ NO__
If NO, please list your primary reason _____
6. Why did your party choose to visit this particular resort? _____
7. Including travel time, how many days will this trip last? 1 2 3 4 5 6 7 MORE THAN WEEK
8. How many nights will you spend in area hotel lodging? 0 1 2 3 4 5 6 7 MORE THAN 1 WEEK
9. From where you live, how many miles did you travel *one way* to this resort? _____ miles.
10. Please list two other attractions or activities you plan for this trip to the mountains.
1. _____ 2. _____
11. On this trip, for how many sessions does your party plan to purchase lift tickets? _____
12. During this year's outdoor season, for how many days do you expect to ski/snowboard?
_____ days at this resort.
_____ days at other NC resorts
_____ days at resorts outside of NC Where outside NC? _____

13. How do you rate the quality of your skiing/snowboarding experience at this resort?

EXCELLENT___ GOOD___ FAIR___ POOR___

If you rated the experience as FAIR or POOR, please explain your concerns.

14. Do you plan a return trip to this resort next year? YES_____ NO_____

15. Have you seen this year's "SKI NORTH CAROLINA" TV advertisement? YES___ NO___

16. Where is your home? CITY_____ STATE_____

17. In total, how much does your group expect to spend on this skiing/snowboarding trip?

\$_____

PART II: GENERAL QUESTIONS ABOUT YOUR SKIING/SNOWBOARDING

1. Is this a first time skiing/snowboarding experience for you? YES___ NO___

2. Is this a first time experience for any other members in your party? YES(how many)___ NO___

3. Did you take a lesson? YES___ NO___

4. Did your visit involve a night session only? YES___ NO___

5. How do you rate your skiing/snowboarding ability?

BEGINNER_____ LOW INTERMEDIATE_____

HIGH INTERMEDIATE___ ADVANCED_____

PART III: EXPENDITURES

In order to estimate the economic impact of the ski/snowboard industry on North Carolina, we are interested in finding the total amount of money you and the other members of your party spent attending area ski/snowboard resorts during 2002-2003. This total amount spent includes items that may have been purchased prior to your trip to the ski resort. In the space below, please list the estimated amount you and others traveling with you spent or will spend during this trip. When recording the dollar amount, please identify such expenditures according to where they were made. Please round each estimate to the nearest whole dollar amount.

Type of Expenditure	Location of Expenses	
	Within 25 miles of resort	More than 25 miles but still in NC
Ski Resort Expenses: (spending at this resort for lift tickets, food and beverages, equipment and clothing rentals, souvenirs, parking fees, tubing and ice skating, etc)		
Lodging Expenses: (spending for motel, hotel, bed and breakfast, overnight fees)		
Restaurants NOT AT RESORT: (spending for dining and/or catering away from the restaurant at this resort)		
Clothing and Equipment NOT AT RESORT: (spending for clothing [e.g., jackets and bibs] and equipment [e.g., skis, snowboards, boots] bought elsewhere for use on this trip.)		
Private Auto Expenses: (spending for gas, oil, repairs, towing fees, traffic tickets, etc.)		
Food and Beverages: (spending for food and beverages in retail stores [grocery, package, e.g.]		
Admission Fees: (spending for concerts, plays, theaters, and sporting events)		
Night Clubs and Bars: (spending for drinks, snacks, cover charges, etc.)		
Commercial Transportation: (spending for airline, bus, train, rental car, taxi/limo)		
Personal and Health Expenses: (spending for barber shop, beauty shop, doctor, lawyer, dry cleaning and laundry, emergency room, etc.)		
Other Retail Shopping: (spending in retail stores for gifts, etc.)		
Baby-Sitter Fees:		
Any Other Expenses: (please identify _____)		

How many individuals were included in these expenditures? _____
(Your answer should be the same as Question #1 on the survey)

APPENDIX B

SURVEY INSTRUMENT SUMMARY 2002-2003 ECONOMIC IMPACT SURVEY

PART I: GENERAL QUESTIONS ABOUT YOUR VISIT TO THIS RESORT

1. How many individuals are traveling in your party on this trip (include yourself)?

9.0 -MEAN
5 -MEDIAN
4 -MODE
1 -MINIMUM
60 -MAXIMUM

2. In this party, how many individuals are going to:

6.52 (71.3%) SKI
1.71 (19.2%) SNOWBOARD
0.12 (1.3%) SKATE
0.42 (4.7%) TUBE
0.11 (1.2%) OTHER

3. Why did you choose to come to this ski area? (most common)

been here before, close to home, convenient, friends, price, word of mouth, school/church/scout trip

4. When did you plan this trip?

7.4% -TODAY
24.3% -LESS THAN ONE WEEK AGO
24.6% -1-3 WEEKS AGO
22.7% 4-8 WEEKS AGO
21.0% -MORE THAN 8 WKS. AGO

5. Is skiing/snowboarding the primary reason for this trip to the N.C. mountains?

89.2% YES

If NO, please list your primary reason (most common)

-Family/relatives, -mountains, -vacation, -school, -live here, -see snow

6. Why did your party choose to visit this particular resort?

Close to home, went here last year, good skiing

7. Including travel time, how many days will this trip last?

2.88 MEAN

8. How many nights will you spend in area hotel lodging?

1.52 MEAN

9. From where you live, how many miles did you travel *one way* to this resort?

258.5 MEAN

180 MEDIAN

200 MODE

1 MINIMUM

2000 MAXIMUM

10. Please list two other attractions or activities you plan for this trip to the mountains.

Grandfather mountain, Smokey Mountains, Blowing Rock, shopping

11. On this trip, for how many sessions does your party plan to purchase lift tickets?

2.77 MEAN

12. During this year's outdoor season, for how many days do you expect to ski/snowboard?

4.2 days at this resort.

1.9 days at other NC resorts

1.6 days at resorts outside of NC

Where outside NC?

West Virginia 17

Colorado 8

Virginia 5

Tennessee 3

Georgia 2

Utah 2

Pennsylvania 1

New York 1

Chili 1

13. How do you rate the quality of your skiing/snowboarding experience at this resort?

33.9% -EXCELLENT

52.8% -GOOD

10.6% -FAIR

2.7% -POOR

If you rated the experience as FAIR or POOR, please explain your concerns.

busy-congested, icy-slushy-rainy weather concerns, too many beginners

14. Do you plan a return trip to this resort next year?

87.5% YES

15. Have you seen this year's "SKI NORTH CAROLINA" TV advertisement?

16.6% YES

16. Are you familiar with the Gold Card Program?

14.3% YES

17. In total, how much does your group expect to spend on this skiing/snowboarding trip?

\$1094.29 –MEAN

\$500- MEDIAN

\$1000 –MODE

\$0 –MINIMUM

\$8000 –MAXIMUM

PART II: GENERAL QUESTIONS ABOUT YOUR SKIING/SNOWBOARDING

1. Is this a first time skiing/snowboarding experience for you?

18.4% –YES

2. Is this a first time experience for any other members in your party?

50.2 –YES

3. Did you take a lesson?

24.1 –YES

4. Did your visit involve a night session only?

23.8 YES

5. How do you rate your skiing/snowboarding ability?

28.2 –BEGINNER

26.9 –LOW INTERMEDIATE

35.9 -HIGH INTERMEDIATE

9.0 –ADVANCED

6. Where is your home?

STATE	40.2% -North Carolina
	18.4% -Georgia
	15.7% -South Carolina
	13.8% -Florida
	5.7% -Tennessee
	2.3%-Other (CA, KY, LA, MS, NY, TX)

