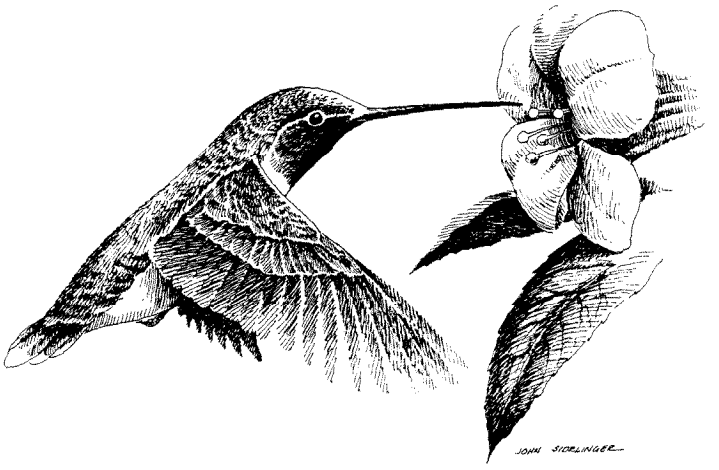
CHAPTER 30

Wildlife Recreation

H. Ken Cordell
USDA Forest Service
Southern Research Station, Athens, GA

John C. Bergstrom, R. Jeff Teasley, and Jeremy Thomas
University of Georgia, Agriculture & Applied Economics, Athens, GA



Southern U.S. forests contribute to sustaining and adding quality to human life in many important ways. From before, during, and continuing now well after early European settlement of the South, native and immigrant populations in the South have lived in, off of and with forests as a major feature of their landscape. One of the important ways people benefit from the forests of the South is through outdoor recreation. In this paper we focus on wildlife recreation as one of the major uses of southern forests using the 1995 National Survey on Recreation and the Environment (NSRE) as the primary source of data. We also examine demographic trends and shifts in the recreational role of wildlife and seek a resource management interpretation of these trends.

The NSRE was developed by a partnership of federal agencies and the private sector to assess trends in outdoor recreation participation nationwide and across all the regions of the country (Cordell et al. 1998). The survey included questions on nearly 90 different types of outdoor recreation pursuits, including wildlife activities. In our discussion of the wildlife recreation activities included in the NSRE, estimates of participation in both nonconsumptive and consumptive activities are presented. All estimates are for participation occurring during a 12-month period in 1994-95 by people 16 years or older. Before we focus attention on wildlife-based outdoor recreation activities, however, we will first take a look at the overall social and outdoor contexts and trends in the South within which wildlife is a highly valued recreational resource.

THE SOCIAL AND OUTDOOR RECREATION CONTEXTS FOR SOUTHERN WILDLIFE

The Social Context

The social context of the South has been changing dramatically over the last few decades, as it has in the rest of the Nation, except more dramatically so. Growth of

population, land use shifts, urbanization, expanding minority populations, a thriving economy, rising environmental sentiments, and shifts in property ownership, among many other changes, have put forest and wildlife management in a much different context than at any other time in this region's history (Cordell et al. 1998). Some of the more salient changes are reviewed below.

Population Growth-Since 1970, the population of the South has grown to almost 87 million, an increase of nearly 31 million, up 54% in barely more than 25 years. Population in the states of South Carolina, Georgia and Florida, the southeastern coastal states, grew fastest among the southern subregions at 87.3%. The South's population growth was second fastest among the major regions of the United States, exceeded only by the West. This region's population gain was in part due to net domestic immigration, contributing around 380,000 new residents between the 1980s and the middle 1990s. The South was the only region in the country with a net gain from migration.

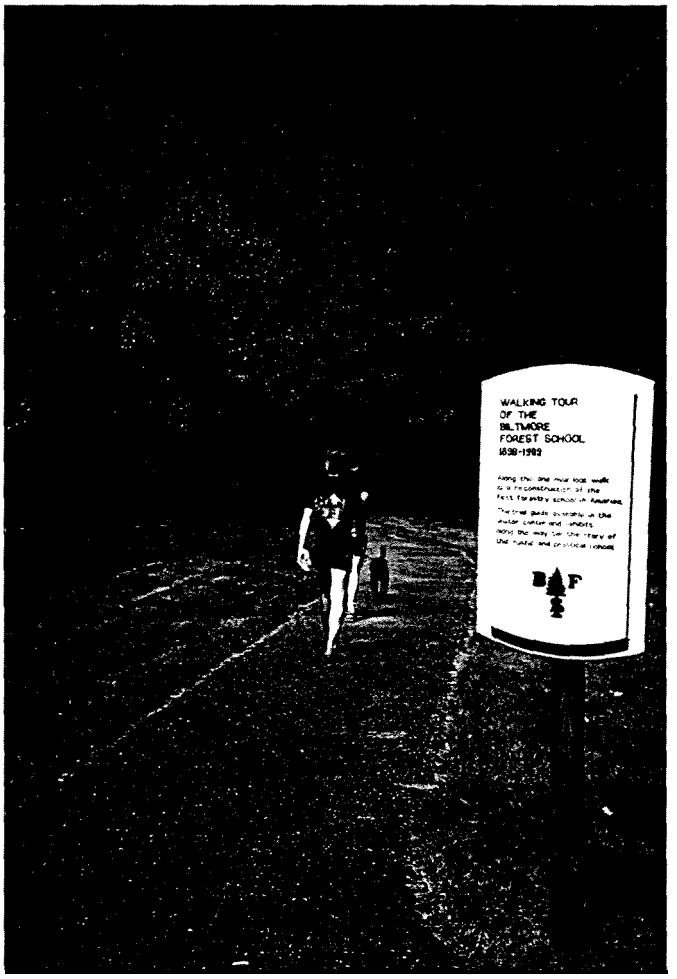
Urban Growth.-Much of the growth of the region's population occurred in the ever expanding urban areas, leaving a number of rural counties with declining population (Cordell et al. 1998). One hundred and sixty four counties in the South have had over 100% growth since 1970. Of these fast growing counties, almost 73% are metropolitan counties (MSA, Metropolitan Statistical Area). Of the remaining nonmetro counties with substantial gains in population, most were either adjacent to counties that are MSAs, or they were in high natural amenity areas such as the Southern Appalachians, the Ozarks, or the Atlantic coast (Economic Research Service, 1997).

Economic Growth.-Income has been changing in the South, along with population. Income changes are important, because as incomes rise or fail, so do consumption of goods and services, participation in outdoor recreation, savings, government tax revenues, and people's lifestyles. Real per capita income in the South in 1980 was $11,453; by 1998, it was $13,184—a rise of a little over 15% in 18 years (English and Gentle, 1998). This is moderate growth, below that of other regions. However, the income growth that has occurred in the South has resulted in the Nation's largest decline in percentage of people living in poverty of any of the U. S. regions. In looking at changing incomes in the South, we found that an increasingly larger share of total wage earner income is going to women and minorities, a shift that is changing the distribution of consumer "voting" power and demand for outdoor recreation.

Sustaining growth of its economy and income are very much dependent on the region's productive diversity. Measured as a ratio of the number of viable economic sectors relative to the maximum number of sectors possible, the South experienced growth in economic diversity of almost 18% between 1982 and 1992 (English and Beavers in press). This rate of diversification was slightly higher than the national average between 1982 and 1992, which was just over 17%.

Environmental Attitudes .-Contrary to popular beliefs, research has shown that environmental attitudes vary little across the regions of the country (Christiansen and Arcury 1992). Looking broadly at Americans' environmental attitudes is usually a good representation of attitudes held in any particular region, or state. In the South and across the nation, environmental concern among the citizenry rose rapidly in the 1960s (Dunlap 1991). By the early 1990s, this environmental concern expressed in opinion surveys, including concerns over the natural environment, had attained an all time high. Opinion surveys of residents in Alabama and the Mid-South conducted in 1992 provided direct evidence that the environmental values and opinions of southerners closely resemble those of the broader American public (Bliss et al. 1994). Three-quarters of southern respondents agreed with the statement, "Private property rights should be limited if necessary to protect the environment." Fewer than one quarter agreed that, "Forest owners have the right to do as they please with their forests, regardless of what it does to the environment." Southern forest land owners themselves share the public's concerns about the environment. In opinion surveys, they expressed feeling that clearcutting and use of herbicides should be regulated where necessary to protect environmental values, while seeking a balance between protecting the environment and protecting the rights of property owners. Only 2% of the American public in the mid- 1990s indicated they were not supportive of the environmental movement (Times Mirror 1994). Ninety percent feel there is a need to strike a balance between economic progress and environmental protection.

Changing Landownership.-Another important change in the South is ownership of private rural land (Cordell et al. 1998). Of private land owners, steadily increasing proportions do not live on the land (absentees) and owners express an increasingly wide range of reasons for owning. In a recent survey of land owners of 10 or more acres (Teasley et al. 1998), the estimated regionwide percentage of owners who are absentee was 56.2%. The reasons owners gave for owning rural land



Hiking is popular southwide (US Forest Service).

included having personal recreation opportunities (43%), raising livestock for sale (42%), investing to eventually sell (39%), growing landscaping shrubbery for sale (31%), providing recreation opportunities for others (31%), enjoying one's own personal green space (27%), being able to live in a rural setting (25%), renting dwellings for profit (25%), and using the land as a tax shelter (20%). Eight percent indicated owning to provide habitat for wildlife, and 3% indicated growing timber for sale as reasons.

Land owners resemble other southerners in the U.S., generally by the environmental attitudes they profess. In a survey of southern landowners (Teasley et al. 1998), nearly 77% strongly agreed with the statement, "The balance of nature is very delicate, so we must try to limit economic growth that exploits nature." This attitude of seeking balance was held equally strongly by resident as well as absentee owners. And, when asked what they intend to emphasize on their land, 38% indicated improvement of the natural conditions, while about 27% indicated earning income. About 32% were undecided about what to emphasize.

Recreational Access to Private Lund.---Recreation demand continues to grow and private owners have responded with a gradual and steady closure of access to all but persons they know or to a lesser extent to persons to whom they lease (Teasley et al. 1998). In the South, 41% of owners with 10 or more acres post an average of 238 acres. Reasons for posting include, "To know who is on the property" (40% of those who post), "To keep out persons not having permission" (40%), and "To keep hunters out" (32%). About 80% of southern owners expect to post the same acreage in the future, but 15% indicate they plan to post more. Mostly, the persons allowed on their land are limited to members of the owner's household, immediate family, friends, or others they know personally. A relatively low percentage of private landowners (just over 7%) lease to outside individuals, clubs or groups for hunting or other recreation. This figure does not include private industrial land (such as owned by timber companies) that may be leased for recreation. Additionally, some private landowners in our survey sample may not have reported leasing activity for privacy and nondisclosure reasons. Thus, when industrial landowners and nonindustrial landowners who may not have reported leasing activity are included, the total number of private landowners who lease land for recreation may be greater than 7%.

The Outdoor Context

When examining outdoor recreation in the South, it is informative to compare this region with other regions. In the first section below, we briefly provide some of those comparisons. In the second section below, we begin to focus on wildlife-based recreation by comparing it with other forms of outdoor recreation.

Comparison of Outdoor Recreation Participation Rates Among **Regions.-Across** the 4 major regions of the country (North, South, Rocky Mountains/Great Plains, and Pacific Coast), there are few differences in participation among the broad types of outdoor recreation activities, including trail, street, and road-based activities such as hiking or driving for pleasure, individual sports such as tennis, team sports (softball, etc.), spectator sports, boating, swimming, and social activities such as family gatherings out of doors (Cordell et al. 1998). Regardless of differences in climate, landscapes, the nature of opportunities, and population size and culture, participation percentages for these types of activities are quite similar across the 4 regions.

The activity types (groupings of similar activities) for which there are marked regional differences include viewing and learning activities (including wildlife viewing and bird watching), snow and ice activities, camping, hunting, fishing, and outdoor adventure activities (for example, rock climbing or white water canoeing) (Cordell et al. 1998). These activity types are directly dependent on the nature of the resources and settings available. Thus differences among regions in resources and settings are obviously major reasons for the regional differences we observed.

Regional differences in participation percentages are especially pronounced for snow and ice activities, camping, and outdoor adventure activities (for example, rock climbing). For snow and ice activities, participation percentages in activities such as skiing is highest in the North. including the Great Lakes area, and as one might expect, lowest in the South. Regional differences in participation in outdoor adventure activities show the 2 western regions (Rocky Mountain/Great Plains and the Pacific Coast) with 48 and 45% of the population participating in one or more adventure activities, while in the eastern regions (the North and the South), 35 and 33% participate.

Smaller regional differences were found for the viewing, hunting, and fishing types of participation (Cordell et al. 1998). For viewing activities, the region with the smallest percentage of people 16 or older participating is the South with 74%; the highest is the Rocky Mountain/Great Plains region with 80%. Differences in hunting participation are most pronounced between the Rocky Mountain/Great Plains region, at 13%, and the Pacific Coast region, at 5 5%. The region with the highest percentage participating in fishing is the South (32%), and the region with the lowest percentage is the Pacific Coast (24%). Prominent examples of particular activities with highly noticeable differences in regional participation include visiting prehistoric sites, primitive area camping, hiking, backpacking, mountain climbing, and off-road vehicle driving. The pattern of regional differences for specific activities is very much like the patterns summarized above for groupings of similar activities-participation is generally higher in the 2 western regions and lower in the 2 eastern regions.

The Relative Importance of Wildlife-Based Recreation in the South.-Table 1 indicates in 2 ways the relative importance of wildlife-based outdoor recreation in the South. The first is the percentage of the population which participates and the second is average number of participation days per year. Shown in Table 1 are activities in which 20% or more of the South's population of persons 16 or older participate, in descending order. Walking is by far the most popular outdoor activity in the South, as it is in the nation. Walking is followed by sightseeing, attending sporting events, picnicking, and pool swimming, all of which have participation rates greater than 40%. Activities with the largest average number of days per person per year include walking (almost 110 days per year), birdwatching (97.5), wildlife viewing (40.4), biking (39.5), and pool swimming (3 1.3).

Hunting has long been an important tradition to southerners (US *Forest Service).*

Wildlife- and fish-related activities, including wildlife viewing, birdwatching, and freshwater fishing (which includes warmwater fishing) have participation rates in the 20-percent range. An important point from Table 1 is that 2 wildlife-related activities are among the most popular of all outdoor recreational activities in the

Table 1. Outdoor recreational activities in which 20% or more of the population 16 or older in the South participate, 1994-95.[a]

Activity	Percentage of population participating	Average days per participant per year
Walking	64.3	109.8
Sightseeing	54.3	17.9
Attending outdoor sporting events	47.9	[b]
Picnicking	44.8	8.6
Pool swimming	46.8	31.3
River/lake/ocean swimming	37.3	17.6
Attending outdoor concerts	31.3	[b]
Wildlife viewing	28.9	40.4
Running/jogging	27.3	[b]
Freshwater fishing	26.2	20.4
Birdwatching	26.2	97.5
Biking	24.6	39.5
Motorboating	24.4	19.0
Warmwater fishing	24.3	20.2

[a] Cordell, H.K., R.J. Teasley, J.C. Bergstrom, and C. Betz. National Survey on Recreation and the Environment Weighted Data Sets. Environmental Resources Assessment Group, Department of Agricultural and Applied Economics, The University of Georgia, and Outdoor Recreation and Wilderness Assessment Unit (SRS-4901), USDA Forest Service (afterwards cited as Cordell et al. 1997).

[b] Day of participation not collected for these activities.

South, and they are among the activities with the highest levels of participation in terms of days per year.

The relative importance of hunting is shown in Table 2. Participation rates for the 3 types of hunting, big game, small game, and migratory birds, are within the 2-to-8% range. Migratory bird hunting is the least popular of these 3 hunting activities with a rate comparable to such activities as sailing and rock climbing. Off-road driving, catch-and-release fishing, fish viewing, salt water fishing, and hiking are more popular than hunting in average number of days per participant among the activities shown in Table 2. Days of participation in hunting per year are substantially less than days per year for the 2 non-consumptive wildlife activities shown in Table 1, birdwatching and wildlife viewing.

While the estimates shown in Tables 1 and 2 indicate a relatively wide distribution in participation rates for wildlife-related recreation in the south, they also point out that wildlife-related recreation is an important component of the outdoor lifestyles of southerners. The importance of wildlife-related recreation to the participants themselves is reflected in the number of trips they take away from home for these activities. Annually, participants in the South take an average of 12.7 trips for wildlife viewing, 7.6 for bird watching, and 9.5, 7.7, and 5.2 for big-game, small-game, and migratory bird hunting, respectively.

In addition to benefitting those who personally participate in wildlife-related recreational activities, these forms of outdoor activities also contribute to the jobs and incomes of other people as a result of trip-related expenditures. The major categories of expenditures associated with wildlife recreation trips include gas, souvenirs, food, lodging, guide books, equipment, land leasing, licenses, stamps, tags, and permits. Total annual expenditures on these items on the part of hunting and wildlife viewing participants in southern states are shown in Table 3.

The expenditures shown in Table 3, as well as expenditures in other outdoor recreation activities, can represent an important injection of money into state or regional economies. For example, when a hunter or a wildlife viewer fills up their car with gas at a local service station, the jobs and incomes of the service station owner and employees are directly supported. Further, the multiplier effects associated with hauling and delivering more gasoline to be sold by the local service station can result in much wider economic impacts throughout the southern region, including workers at refineries and distribution centers. As well, hunting license fees support state game and fish commissions

Table 2. Outdoor recreational activities in which less than 20% of the population 16 or older in the South participate, 1 994-95.[a]

Activity	Percentage of population participating	Average days per participant per year
Hiking	18.6	17.2
Developed camping	17.2	10.8
Off-road driving	14.7	24.3
Fish viewing	13.7	19.7
Saltwater fishing	13.4	18.3
Water skiing	9.4	10.9
Catch and release fishing	9.0	20.3
Coldwater fishing	8.0	9.2
Big game hunting	8.0	15.7
Small game hunting	7.9	13.0
Canoeing	6.6	4.2
Backpacking	5.9	6.9
Downhill skiing	5.5	4.2
Sailing	3.8	7.2
Rock climbing	2.9	3.5
Migratory bird hunting	2.5	7.0
Kayaking	1.1	8.8

[a] Cordell et al. 1997.

Table 3. Expenditures by state resident participants in the South for wildlife-related recreation, 1996. (Population 16 years old and older: expenditures in thousands of dollars.)

	Activity	
State	Hunting	Wildlife viewing
Arkansas	$541,732	$181,835
Alabama	$536,753	$277,292
Florida	$471,602	$1,557,719
Georgia	$858,437	$942,890
Kentucky	$342,811	$352,076
Louisiana	$637,004	$262,246
Mississippi	$501,561	$185,552
North Carolina	$561,891	$578,573
South Carolina	$350,233	$316,693
Tennessee	$824,891	$384,854
Texas	$1,340,335	$1578,678
Virginia	$428,794	$781,840

[a] From U.S. Fish and Wildlife Service 1997. 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: State Overview. USDI, Fish and Wildlife Service, Arlington, VA. 115 pp.

(agencies) and the many conservation activities these agencies routinely undertake.

Another source of wildlife-related economic impacts in the south are the activities of citizen conservation organizations. Organizations such as the National Wild Turkey Federation, National Wildlife Federation, Quail Unlimited, Ducks Unlimited, and Trout Unlimited have combined memberships in the south numbering in the thousands of people. Members of these organizations, for example, contribute time and money to wildlife management projects. These expenditures result in economic impacts in addition to the impacts of expenditures on wildlife-related recreational activities such as birdwatching, hunting, and fishing. The National Private Landowners Survey, the results of which are the focus of this chapter, did not address participation in conservation or environmental organizations. The activities and impacts of members of these organizations is an interesting area for future research.

Unlike many of the nonwildlife-related recreational activities listed in Tables 1 and 2, wildlife- related recreational activities are directly dependent on the conditions of forest ecosystems, as discussed in other chapters of this book. Maintenance of healthy forest ecosystems is, therefore, essential to providing continued opportunities for wildlife-related recreation and support for income and jobs in the South.

In the next sections of this chapter, wildlife viewing, birdwatching, and hunting are described in more detail, as are the people in the South who participate in these activities.

WILDLIFE VIEWING AND BIRDWATCHING

The nonconsumptive wildlife recreational activities we cover are wildlife viewing and birdwatching. As indicated in Table 1, 28.9% of the population in the South participated in wildlife viewing and 26.2% in birdwatching.

The characteristics of participants and their households in the South who engage in wildlife viewing and birdwatching are compared below. Also shown are comparisons of percentages participating by demographic strata nationally and in the South.

The race, gender, and age distributions of wildlife viewers, nationally and for the South, are shown in Table 4. As with other wildlife-related activities, the vast majority of participants in wildlife viewing are Caucasian. However, much unlike hunting, larger percentages are female and in age groups over 40 years. Compared with wildlife viewers, larger percentages of birdwatchers are African-American, female, and over age 50. Smaller percentages of birdwatchers are under age 30. Overall, however, there are few differences between percentages of wildlife viewers and bird watchers by demographic category when comparing the South with the nation.

About one-third of wildlife viewing and birdwatching participants in the South are college graduates (Table 5). Another 27% are high school graduates. while a slightly larger percentage had completed at least some college. The $25,000 to $50,000 income range is

Bird watching is a popular and growing activity in the South (C. Gelb, The Nature Conservancy).

Table 4. Percentages in the South age 16 or older participating in wildlife viewing and birdwatching by race, gender, and age, 1994-9.5.a

Demographic	National		South	
	Wildlife viewing	Birdwatching	Wildlife viewing	Birdwatching
Race				
Caucasian	88.2	86.3	86.4	83.9
African-American	6.4	8.4	9.8	12.6
Hispanic	0.7	0.8	0.3	0.5
Others	4.6	4.5	3.5	3.0
Gender				
Male	48.2	43.9	49.6	43.6
Female	51.8	56.1	50.4	56.4
Age				
16-24	15.8	10.5	17.3	12.4
25-29	11.5	8.7	11.9	9.0
30-39	25.7	23.1	24.5	22.2
40-49	19.9	20.6	19.7	19.8
50-59	11.9	13.8	11.8	13.5
60+	15.2	23.3	14.9	23.4

[a]Cordell et al., 1997.

Table 5. Percentages in the South age 16 or older participating in wildlife viewing and birdwatching by education and income, 1994-95.a

Demographic	National		South	
	Wildlife viewing	Birdwatching	Wildlife viewina	Birdwatching
Education				
College graduate	33.3	34.6	31.9	33.3
Some college	30.9	30.1	28.7	30.1
Completed high school	27.2	27.7	29.7	27.1
Some high school	8.4	7.6	9.6	9.6
Income				
Less than $15,000	7.3	8.9	7.8	9.3
$15,000-25,000	14.0	16.0	13.7	14.8
$25,000-50,000	40.7	39.0	40.0	37.2
$50,000-75,000	21.6	20.4	22.0	23.2
$75,000-1 00,000	9.7	9.1	10.2	9.4
More than $100,000	6.6	6.5	6.2	6.2

[a]Cordell et al. 1997.

the most frequently reported income for both wildlife viewers and birdwatchers. Slightly larger percentages of wildlife viewers are in this income range. The next most frequent income categories are the $50,000 to $75,000 range. between 22% and 23% for the South for the 2 activities. and the $15,000 to $25,000 range, between 14% and 15% (Table 5).

Table 6. Percentage in the South age 16 or older participating in wildlife viewing and birdwatching by household characteristic, 1994-95."

Demographic	National		South	
	Wildlife viewing	Birdwatching	Wildlife viewina	Birdwatching
Number of vehicles				
O-l	21.6	25.7	20.0	24.4
2	42.9	42.9	43.5	44.0
3 or more	35.5	31.4	35.9	31.3
Number in household				
1	13.7	16.1	12.0	15.3
2	33.3	37.4	35.2	38.3
3	20.0	17.9	21.5	18.3
4	19.7	17.0	20.4	18.8
5 or more	13.3	11.7	10.9	9.3
Household members 16 and over				
1	15.6	16.7	13.7	15.4
2	58.8	61.0	60.9	62.6
3 or more	25.6	22.3	25.4	22.0
Household members 6 and under				
0	55.9	59.9	54.4	58.6
1 or more	44.1	40.1	45.6	41.4
Family members				
1	14.3	15.6	11.8	13.6
2	32.2	37.0	34.9	38.7
3	20.2	18.5	22.2	19.7
4 or more	33.3	28.9	31.1	28.0

[a]Cordell et al. 1997

Table 6 describes the characteristics of households in which 1 or more members are wildlife viewers. Again, percentages are shown for the nation and for the South. About 44% of wildlife viewer households in the South have 2 cars, and about 36% own 3 or more cars. The most frequent number of persons in southern wildlife viewer households is 2. Birdwatchers tend to have somewhat fewer vehicles in the household, are slightly more frequently in smaller households, and more frequently have no members 6 years or under. This is very similar to the patterns shown nationally in Table 6.

Over one-half of wildlife viewer households have at least 2 persons age 16 or over, less than the percentage of bird watchers. Over 50% of wildlife viewer and bird-watcher households have no members age 6 or under. The number of immediate family members within wildlife viewer households is relatively evenly distributed between 1 and 4 family members, with one-member households representing the lowest frequency. For

Table 7. Percentages in the South age 16 or older participating in wildlife viewing and birdwatching by employment status, 1994-95.[a]

Demographic	National		South	
	Wildlife viewing	Birdwatching	Wildlife viewing	Birdwatching
Employment				
Full-time	56.1	51.1	56.6	50.1
Homemaker	7.5	8.5	8.1	9.1
Not employed	2.9	2.9	3.1	3.1
Part-time	13.2	12.3	10.3	9.8
Retired	13.8	20.3	14.2	21.5
Student	6.4	4.8	7.8	6.4

[a]Cordell et al. 1997.

birdwatcher households, smaller percentages have one other family member, while a larger percentage has 2 other family members in the household. With regard to employment status, just over 50% of birdwatchers in the South are full-time workers and around 9% are homemakers (Table 7). Higher percentages of birdwatchers are retired.

In Table 8, other outdoor activities are listed in which wildlife viewers and birdwatchers participate, for the nation and for the South. Larger percentages of wildlife viewers appear to participate in other nonconsumptive outdoor activities, rather than in consumptive ones. These nonconsumptive viewing activities include birdwatching, fish viewing, and nature study. Other activities enjoyed by wildlife viewers include hiking, camping (developed and primitive), and freshwater (including warmwater) fishing. Birdwatchers differ in that smaller percentages hunt or fish (except for catch and release), smaller percentages hike, camp, ride horses, or canoe; but larger percentages of birdwatchers also view wildlife other than birds.

Table 8. Percentage of wildlife viewers and birdwatchers in the South age 16 or older by other outdoor recreation activities in which they participate, 1994-95.[a]

Demographic	National		South	
	Wildlife viewing	Birdwatching	Wildlife viewing	Birdwatching
Big game hunting	12.2	7.8	13.7	7.6
Small game hunting	10.5	7.2	12.7	7.6
Migratory bird hunting	3.7	2.8	4.5	3.6
Freshwater fishing	35.9	31.9	38.9	34.3
Saltwater fishing	13.2	12.4	20.2	18.9
Warmwater fishing	30.2	27.1	36.5	32.3
Coldwater fishing	16.2	13.4	12.6	10.3
Anadromous fishing	7.3	6.5	6.0	6.2
Catch/release fishing	11.9	16.9	14.0	20.2
Birdwatching	57.9	100.0	58.8	100.0
Wildlife viewing	100.0	66.9	100.0	64.8
Fish viewing	29.8	28.8	30.7	29.3
Nature study	50.0	26.9	49.7	24.8
Hiking	39.4	34.5	33.2	29.1
Orienteering	4.7	4.1	4.5	3.5
Backpacking	13.1	10.3	10.3	7.9
Developed camp	32.2	26.0	28.3	22.0
Primitive camp	23.2	17.8	20.3	14.7
Horseback riding	11.4	a.7	12.7	9.4
Canoeing	12.5	10.6	11.7	8.3
Kayaking	2.2	2.0	2.0	1.9

[a]Cordell et al. 1997.

Table 9. Percentage and millions of participants and average days of participation per year in hunting activities in the South, 1994-95.[a]

Type of hunting	% of population	Millions participating	Average days per participant per year
Big game	8.0	5.5	15.7
Small game	7.9	5.4	13.0
Migratory bird	2.5	1.7	7.0
Any hunting	10.6	7.3	13.4

[a]Cordell et al. 1997

HUNTING

Hunting, as covered by the NSRE, includes big game, small game, and migratory bird hunting by persons 16 years and older. Based on the NSRE, 8.0% of the population in southern states participated in big game hunting, 7.9% participated in small game hunting, and 2.5% participated in migratory bird hunting. These percentages, as well as total number of hunting participants in the South, are shown in Table 9. As indicated in Table 9, 7.3 million people in the South participate in hunting, including big game hunters (5.5 million), small game hunters (5.4 million), and migratory bird hunters (1.7 million). Almost equal proportions participate in big game and small game hunting, but a much smaller proportion participate in migratory bird hunting. Across all 3 hunting activities, 10.6% reported participating one or more times during the 1994-95 survey period, somewhat higher than the 9.3% shown for the nation.

Table 10 examines some of the demographic characteristics of people who hunt in the South, compared with national percentages. Most hunting participants are

Table 10. Percentages of persons 16 years or older nationally and in the South participating in hunting by race, gender, and age, 1994-95."

Hunters	National	South
Race		
Caucasian	92.0	90.2
African-American	4.0	7.9
Hispanic	1.0	0.5
Others	3.1	1.3
Gender		
Male	84.9	84.2
Female	15.1	15.8
Age		
16-24	24.3	29.6
25-29	14.3	13.3
30-39	26.0	23.9
40-49	15.9	15.8
50-59	10.7	9.4
60 and over	8.7	8.0

[a]Cordell et al. **1997.**

Table 11. Percentages of hunters 16 years or older nationally and in the South by education and income, 1 994-95.[a]

Hunters	National	South
Education		
College graduate	21.1	18.0
Some college	29.8	27.6
Completed high school	34.1	33.6
Some high school	14.9	20.5
Income		
Less than $15,000	4.4	4.7
$15,000 ▪ 25,000	13.5	16.7
$25,000 ▪ 50,000	36.9	32.4
$50,000 ▪ 75,000	17.2	15.1
$75,000 ▪ 100,000	6.9	7.5
Greater than $100,000	4.1	5.0
Refused, don't know, not available	17.0	18.8

[a]Cordell et al. 1997

Caucasian, although other races or ethnicities also are represented. The gender of hunters in the South is mostly male at nearly 85%. As well, most southern hunters (about 2/3) are below 40 years of age, with 30-39 years being the most frequent age reported. There is also a relatively large proportion of hunters in the 16-24 age category, larger than the national proportion in this age

Table 12. Percentages of household nationally and the South having at least one member who hunts by household characteristic, 1994-95.a

Hunters	National	South
Number of vehicles		
O-l	12.9	12.1
2	41.8	42.6
3 or more	45.3	46.4
Household members		
l	13.2	11.3
2	28.0	26.8
3	22.9	25.4
4	21.2	23.1
5 or more	14.8	13.5
Household members 16 and over		
1	14.0	12.6
2	57.1	54.0
3	28.9	33.4
Household members 6 and under		
0	52.5	55.6
1 or more	47.5	44.4
Family members		
l	13.4	11.4
2	26.9	25.7
3	23.6	25.4
4 or more	36.1	37.5

[a]Cordell et al. 1997

group. The proportions in other age ranges who hunt substantially decrease after age 49.

Table 11 indicates that the education of about 54% of hunters in the South is at or below the high school level. Eighteen percent of hunters in the South have completed college, and 28% have completed some college. The income category with the highest percentage of hunters is between $25,000 and $50,000 (Table 11).

Table 12 describes general characteristics of households in the South in which one or more members (family, boarders, roommates) is a hunter. Most households with a hunting member own 2 or 3 vehicles, and only a relatively small percentage own 1 or no vehicles. The majority of hunter households have only 2 to 3 members, although 4 and 5-member households combined constitute about 37% of all households with someone who hunts. Within these households, the majority have 2 members 16 or over, while almost one-third of them had 3 and under one-fifth had only 1. About 55% of the households with hunters have no members under the age of 6. The most frequent num-

Table 13. Percentage of hunters 16 years or older nationally and in the South by employment status, 1 994-95.[a]

Hunters	National	South
Employment Status		
Full-time	69.6	66.5
Homemaker	2.4	2.4
Not employed	2.4	2.9
Part-time	9.9	10.4
Retired	7.3	6.7
Student	8.3	11.1

[a]Cordell et al. 1997.

Table 14. Percentages of hunters nationally and in the South participating in other outdoor recreation activities, 1994-95.[a]

Activity	National	South
Big game hunting	56.6	55.9
Small game hunting	51.7	55.3
Migratory bird hunting	17.0	17.6
Freshwater fishing	62.3	64.0
Saltwater fishing	20.1	28.2
Warmwater fishing	53.7	60.7
Coldwater fishing	30.4	23.0
Anadromous fishing	13.8	10.5
Catch/release fishing	20.0	21.1
Birdwatching	29.8	25.9
Wildlife viewing	50.7	47.4
Fish viewing	21.4	21.1
Nature study	34.8	32.2
Hiking	36.3	31.1
Orienteering	5.7	5.4
Backpacking	16.1	13.6
Developed camping	36.6	34.6
Primitive camping	37.5	35.7
Horseback riding	14.8	17.7
Canoeing	15.7	14.2
Kavakino	2.1	2.0

[a]Cordell et al. 1997

ber of immediate family members in hunter households is 4.

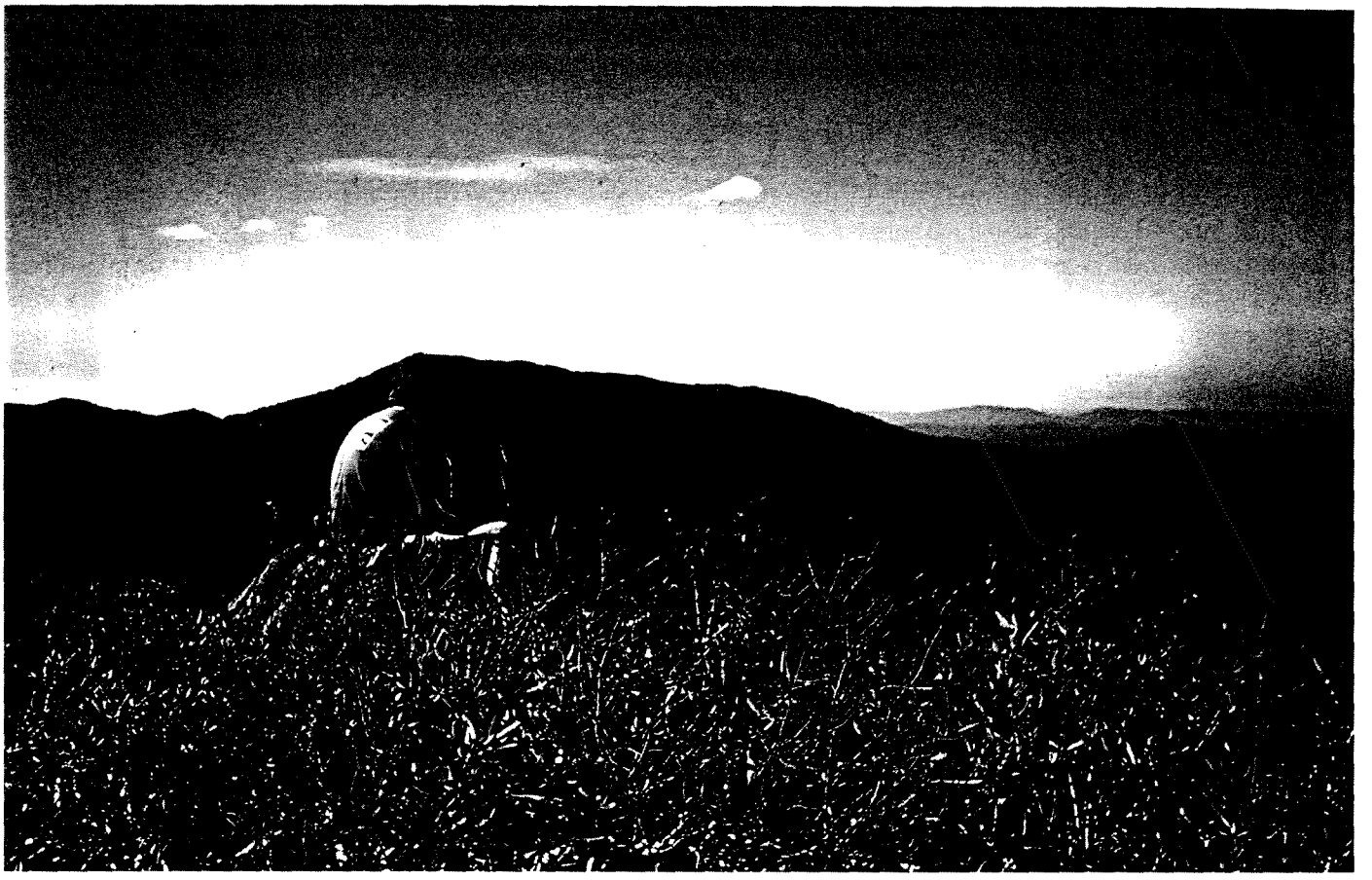
About two-thirds of hunters in the South are employed full-time. About 11% are students; 7% are retired; 2% are homemakers; and another 10% work part-time (Table 13). Table 14 shows the frequency with which hunters participate in recreational activities other than hunting. Some of the more popular other outdoor activities among hunters are warmwater fishing, wildlife viewing, primitive camping, developed camping, nature watching, hiking, and birdwatching.

SOME FURTHER COMPARISONS AND CONCLUDING REMARKS

Birds, mammals and other terrestrial wildlife continue to be important to the recreational experiences of many in the South. In this chapter we have examined the role of wildlife in outdoor recreation by looking at participation in viewing wildlife, birdwatching, and various forms of hunting. Data from the National Survey on Recreation and the Environment and from previous national surveys have shown a significant shift in this role. This shift is characterized primarily as a rise in popularity of nonconsumptive wildlife viewing and birdwatching, relative to that of hunting. Very likely this shift has been strongly influenced by the rapidly changing demographic makeup and lifestyles of the population of the South-increasingly urban and increasingly detached from the land.

The relationship between shifting demographics and shifts in wildlife recreation are indicated by looking at differences in the demographics of consumptive and nonconsumptive wildlife recreationists. While there were some demographic differences between people who engage in wildlife viewing and those who birdwatch (namely higher percentages of birdwatchers are African-American, female, and over 50), hunters differed even more. Higher percentages of those who hunt than those who watch wildlife or birds were white, nearly double the percentage were male, and higher percentages were under 30. In addition to these differences, smaller percentages of hunters than wildlife or bird watchers had attended college, smaller percentages had incomes over $50,000 per year and higher percentages lived in households of 3 or more. Larger percentages of mostly-male hunters than either wildlife viewers or birdwatchers were employed full-time (they are younger), and much smaller percentages were homemakers. Much larger percentages of birdwatchers were part-time employed or retired than either wildlife viewers or hunters. It follows from the above differences that demographic trends in the South toward better educated, higher income, smaller household, and more ethnically diverse populations are likely contributing significantly to our observed shifts from consumptive to nonconsumptive recreational uses of wildlife.

In addition to demographic shifts, growing detachment from working on or having direct contact with the "land" — the natural environment, is also a likely cause



People seek to reconnect with nature in many different ways (US forest Service).

of the trend from hunting toward nonconsumptive forms of wildlife recreation. Population growth in the South has been startlingly large. Especially in Florida, Georgia, some parts of Texas, and northern Virginia, this growth is transforming the landscape rapidly and permanently. In some parts of the region, urban growth is accelerating, drastically transforming forests and open habitat as well. This growth is fed by the proliferation of highways, more fuel-efficient automobiles, mass transit systems and the declining necessity to work at a centralized work place.

More people living in ever expanding metropolitan areas assures increasing generational detachment from the "land". Detachment, that is, from having regular, direct contact with the out-of-doors, and certainly void of traditional rural lifestyles, where hunting was a traditional part of that lifestyle. For example, it is not unusual for many, if not most people of the 1990s, to start their day by leaving their air conditioned homes through attached garages with automatic door openers and driving in their air conditioned vehicle to their work-place garage through which they enter their workplace to spend the day in an air conditioned office environment. Throughout the day, many never feel the warm rays of the sun nor the cooling breezes of night fall.

For many of us who have lived the 1990s and are thinking of life in the new millennium, wildlife, wildlands, forests, and wilderness can seem remote and full of mystery. Strangely, this remoteness and mystery seems to have resulted in more, not less concern for nature and wildlife. A growing concern for nature and wildlife is reflected in polls that show most people being supportive of the environment and of the laws set up to protect it. This environmental concern is reinforced, it seems, by people's seeking to reconnect with the out-of-doors through outdoor recreation, including wildlife recreation, especially nonconsumptive wildlife recreation. For most, going back to the rural lifestyles of generations past is not possible, but for most, outdoor recreation is possible.

Given these trends, one might ask how we as natural resource managers and scientists might work more effectively with the public to maintain a significant place for forests and wildlife in this fast changing region. One clue to finding ways to work more effectively may lay in research showing that most people

support the environment, even at the expense of economic growth. Whether people literally would make sacrifices in economic growth in favor of improving the environment is a good question, but they have clearly stated a willingness to do so. And perhaps the literalness of people's expressed attitudes and values doesn't matter all that much. Perhaps, as the authors believe, what matters more is that people have a concern for maintaining a healthy natural environment. This concern for nature seems to offer one avenue for working more effectively with the public to reestablish a connection with the "land".

Very much in harmony with growing environmental sentiments, is the popularity of outdoor recreation, especially the popularity of and desire to learn about wildlife-based outdoor recreation. The desire to learn as a part of outdoor recreation is indicated by the popularity of viewing/learning activities, including wildlife viewing and bird watching. Ours and others' research has shown repeatedly that outdoor recreation is as motivated by a desire to learn as it is by a desire to have fun. Widespread sentiments toward protecting our environment, the overall popularity of outdoor recreation and wildlife-based recreation, and recreation participants' desire to learn seem to offer an unparalleled opportunity to help people reconnect with their natural environment and to provide information that may help them better understand what is happening to it. Better understanding relationships between human activity, development, population dynamics and the natural environment may open new avenues and ideas for having economic growth while at the same time caring for the natural resources of the region.

Outdoor recreation is a part of most people's lives whether they live in cities or in the country. With little or no coaxing, people seek information and learning opportunities as they recreate. Participation and exposure to unbiased, science-based information can be a very important way for people across a broad spectrum of demographic strata to learn about nature, environmental changes and wildlife. A challenge to wildlife and other natural resource managers in the future will be to find ways to keep wildlife, including birds and nontraditional forms such as reptiles, a part of outdoor recreational experiences and provide information and learning opportunities along the way. Innovation and opportunism are characteristics of the American way. It is our challenge to be innovative in exploring the connections between outdoor recreation and environmental education as one way, maybe a critical path, to helping brighten the future of forests and wildlife in the South.