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SURVEILLANCE REPORT # 20

APPARENT PER CAPITA ALCOHOL CONSUMPTION: NATIONAL, STATE, AND REGIONAL TRENDS, 1977-1989

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INTRODUCTION

This surveillance report is the sixth in a series (Williams et al. 1991; Brooks et al. 1989; Steffens et al. 1988; Laforge et al. 1987; Doernberg et al. 1986) that examines apparent per capita alcohol consumption on a national, state, and regional basis. The present report extends coverage to include data for 1989. The report was prepared by the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) Alcohol Epidemiologic Data System (AEDS) under the supervision of the Division of Biometry and Epidemiology, NIAAA. Other surveillance reports prepared by AEDS include reports on alcohol-related fatal traffic crashes (Zobeck et al. 1991), liver cirrhosis mortality (Grant et al. 1991), and hospital discharges with alcohol-related conditions (Caces and Stinson, 1991).

Major findings in this report are presented in four sections. The first section presents national consumption trends for beer, wine, spirits, and all alcoholic beverages combined. The second section presents individual state trends for the same beverage categories. States also are ranked in deciles according to total ethanol consumption. The third section presents regional consumption trends for each type of beverage and all beverages combined. Regions are defined according to Bureau of the Census criteria. The fourth section presents adjusted total per capita ethanol consumption for individual states that have participated in the Behavioral Risk Factors Survey (BRFS) through the Centers for Disease Control (CDC) (CDC 1986, 1987, 1988, 1989). These per capita consumption estimates are adjusted to reflect self-reports of abstention, a procedure that provides a clearer picture of the extent of drinking among the drinking population in the individual states.

Sources and Limitations of Data

In order to make appropriate interpretations of the data in this report, readers should be aware of the following:

- AEDS attempts to obtain beverage sales data from every state and the District of Columbia because sales data reflect alcoholic beverage consumption more accurately than do production and shipments data from beverage industry sources. Routine reports on beverage sales and/or tax receipts for 1989 were received from certain states and the District of Columbia (29 states for beer, 30 states for wine, and 27 states for spirits). Shipments data from major beverage industry sources (Distilled Spirits Council of the United States, Wine Institute, and Beer Institute) were used for those states that did not furnish sales reports to AEDS. Fortunately, the panel of states reporting sales data to AEDS has remained fairly consistent over the period covered in this report.
- AEDS uses a drinking population of 14 years and older to calculate per capita consumption rates. Although 14 is below the minimum legal age of drinking in this country, most survey results indicate that 14-year-olds do drink alcoholic beverages to some extent. The alcohol questionnaires in the 1983 and 1988 versions of the National Health Interview Survey (NHIS), for example, indicate that between 6 and 7 percent of the United States drinking population aged 18 and older started drinking at 14 years of age or younger (AEDS 1986; 1990). Also, the High School Senior Survey (Johnston et al. 1988) shows that about 30 percent of

eighth graders and 56 percent of ninth graders use alcohol to some extent.

- With the exception of the adjusted per capita consumption data in the fourth section of this report, all the consumption estimates are based on that portion of the total population that has reached an age at which significant numbers of people drink, not specifically on the population of actual drinkers. Most of the per capita consumption estimates are based on the population aged 14 years and older. However, the adjusted per capita consumption estimates for the the individual states are based upon the population aged 18 years and older. Also, survey data suggest that important state and regional differences exist in rates of abstinence, a fact strongly supported by the BRFS data presented in the fourth section.
- AEDS uses a proportional estimate of average ethanol content to convert the sold or shipped volume of beer, wine, and spirits into ethanol (pure alcohol) before calculating the per capita estimates. The coefficients used to convert the specific alcoholic beverages to ethanol are 0.045 for beer, 0.129 for wine, and 0.414 for spirits (Doernberg and Stinson 1985). The beverage-specific conversion coefficients have been constant since 1977. However, because of the introduction of such products such as "light" and "dry" beer, "light" wines, and wine and spirits coolers, there may have been some drop in the average ethanol content of some alcoholic beverages in more recent years.

  A report on spirits by Kling (1989, 1991) suggests a trend toward lower average ethanol content in most spirits beverages. The lowering of average ethanol in spirits, therefore, may underestimate the actual decreases in per capita spirits consumption and consumption of all alcoholic beverages combined. Decreases in spirits ethanol alone, however, have not been large enough to alter overall consumption trends to any great extent. Also, lower ethanol content in some alcoholic beverages has been offset by increased sales of beverages with higher ethanol content, e.g., fortified wines, malt liquors, and beer and ale produced in local or mini-breweries.
- Persons familiar with survey reports and scientific literature often are accustomed to the inclusion of significance tests or confidence intervals on the data presented. However, where data are based on 100 percent of actual sales and/or shipments, as is the case in most of this report, there is no sampling. Thus, there are no confidence intervals or measures of statistical significance to be reported. The extent to which changes in per capita consumption may reflect changes in behavior or changes in the composition of the population over time are reviewed in the discussion section.
- The year 1977 is the base year for nearly all of the analyses presented in this report. This is because AEDS began collecting and calculating per capita estimates from actual sales and/or tax receipt reports from the individual states in 1977. It should be noted that, even with individual state sales data, consumption in some states is inflated by cross-border sales to buyers from neighboring states. Other factors that are likely to affect the level of consumption in the individual states include age distribution of the state's

population, tourist trade, the number of dry jurisdictions, and general attitudes toward drinking.

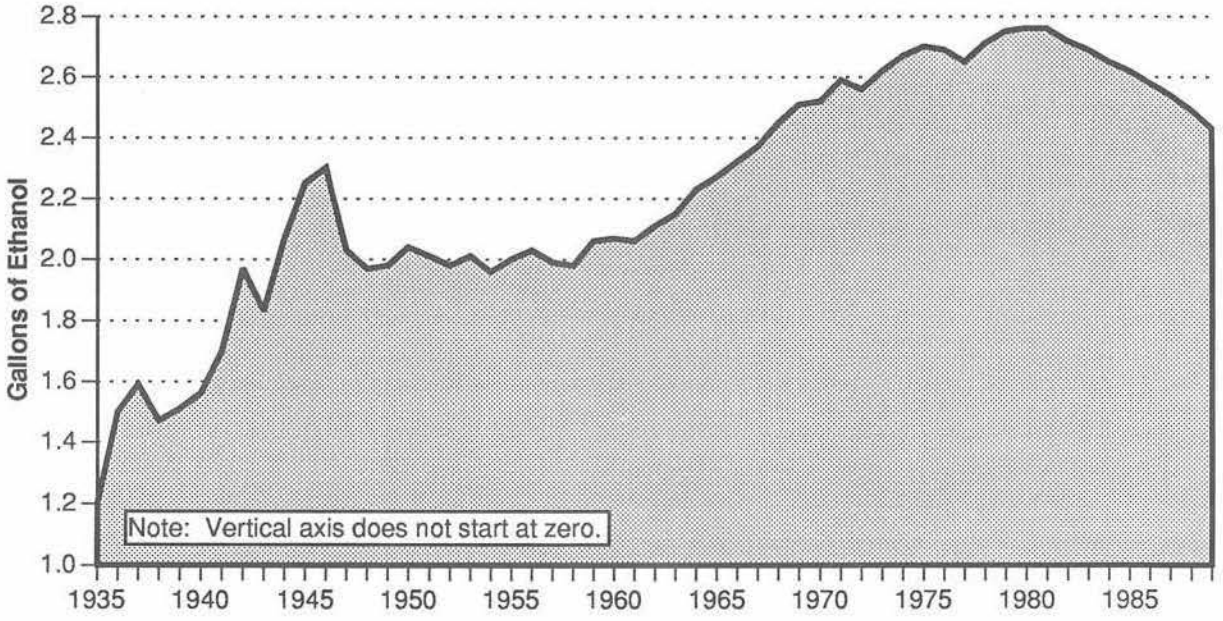
NATIONAL DATA

Background

Long-range trend data on apparent ethanol consumption by beverage type provide an historical perspective on alcoholic beverage consumption patterns. Table 1, presented at the end of this report, shows estimates of per capita consumption for beer, wine, spirits, and all beverages combined beginning in the year 1850. Also, Figure 1 presents an area graph of per capita ethanol consumption for all alcoholic beverages combined in the nation for the years 1935 through 1988. It should be emphasized that a different population base (age 15 and older) was used in per capita estimates through 1969, and different percentages of absolute alcohol were used for the different beverage types prior to 1977 (Doernberg and Stinson 1985).

As shown in Table 1, per capita ethanol consumption from 1850 to 1910 varied considerably but showed a very minimal increase (0.5%) for those years. From 1901 to 1919, however, total per capita ethanol consumption decreased (18.0%). After Prohibition, from 1934 to 1939, total per capita consumption increased (65.9%). During the 1940s, two distinct peaks occurred, one in 1942 and one in 1946 (see Figure 1), with an overall increase (26.9%) in consumption. In the 1950s, there were slight annual increases and decreases, resulting in a very small overall increase (1.0%) in ethanol consumption. In the 1960s, there was a rather rapid increase (21.3%) in consumption, and this was followed in the 1970s by a moderate

Figure 1. Total Per Capita Ethanol Consumption, 1935-1989



increase (9.1%). The 1980s decrease (12%) in per capita ethanol consumption is unique in that it represents the only decade of decrease since Prohibition.

Per Capita Consumption, 1977-89

Figure 2 presents per capita ethanol consumption estimates for beer, wine, and spirits for 1977 through 1989. This figure also shows that the overall trend in consumption for all beverages combined tends to mask some of the differences in the beverage-specific trends. Although lowest in volume consumption, wine shows the greatest absolute increase (0.10 gallons of ethanol) from 1977 to 1986. Since then, it has decreased by 0.05 gallons. Beer consumption increased by 0.10 gallons of ethanol from 1977 to 1981, decreased slightly over the next four years, rose slightly in 1986, remained the same in 1987, decreased by 0.01 gallons in 1988, and decreased again by 0.02 gallons in 1989. This pattern left per capita beer consumption with an absolute increase of only 0.02 gallons of ethanol between 1977 and 1989. Spirits consumption shows the largest absolute decrease over the 12-year period studied, a decrease of 0.28 gallons of ethanol.

Percent Change in Per Capita Consumption, 1977-89

Figure 3 shows the percent change in per capita consumption for each year and beverage type relative to its 1977 value. The percent change for all alcoholic beverages combined increased gradually from 1977 to 1980, leveled off in 1980 and 1981, and then began a decline in 1982 that has lasted through 1989. Change in per capita consumption of beer increased gradually from 1977 to 1981, decreased from 1981 to 1985, increased marginally in 1986, remained the same in 1987, and then decreased marginally in both 1988 and 1989. This fluctuation left the 1989 per capita consumption of beer about 2 points above its 1977 level. In contrast, per capita consumption of wine increased each year from 1977 to 1986, but then decreased in 1987, 1988, and 1989. Per capita wine consumption was 10 percent higher in 1989 than it was in 1977. Spirits consumption increased marginally from 1977 to 1978, but since then it has declined steadily through 1989, ending at 26 percent below its 1977 level. Per capita consumption of spirits in 1989 was at its lowest level since 1955.

In 1989 beer ranked fourth (behind soft drinks, coffee and milk) in per capita consumption of any kind of beverage product, a position it has held for many years (Jobson 1990a). Beer and ale are even included in the calculation of the consumer price index (U.S. Brewing Industry 1988). In 1989 the consumption of beer in gallons was more than 11 times that of wine, and more than 15 times that of spirits (see Table 2). Beer accounted for 54 percent of the total ethanol consumed in 1989. Despite its large volume, however, market specialists suggest that any increases in per capita consumption of beer during the 1990s are likely to be relatively slight (Jobson 1989a; M. Shanken, 1991c).

Until its drop in 1987, wine consumption in the United States had been increasing steadily from the base year of 1977. According to market analysts (Jobson 1990b; M. Shanken, 1991a), a significant portion of the former increase in wine consumption was mainly attributed to increased sales of wine coolers. The wine cooler market now, however, may be on a downward trend, although some market analysts believe that wine drinkers are receptive to new and innovative products (Jobson 1990b). More new wine products, such as flavored, "light" wines and varietals, are likely to be introduced into the

Figure 2. Per Capita Ethanol Consumption by Beverage Type, 1977-1989

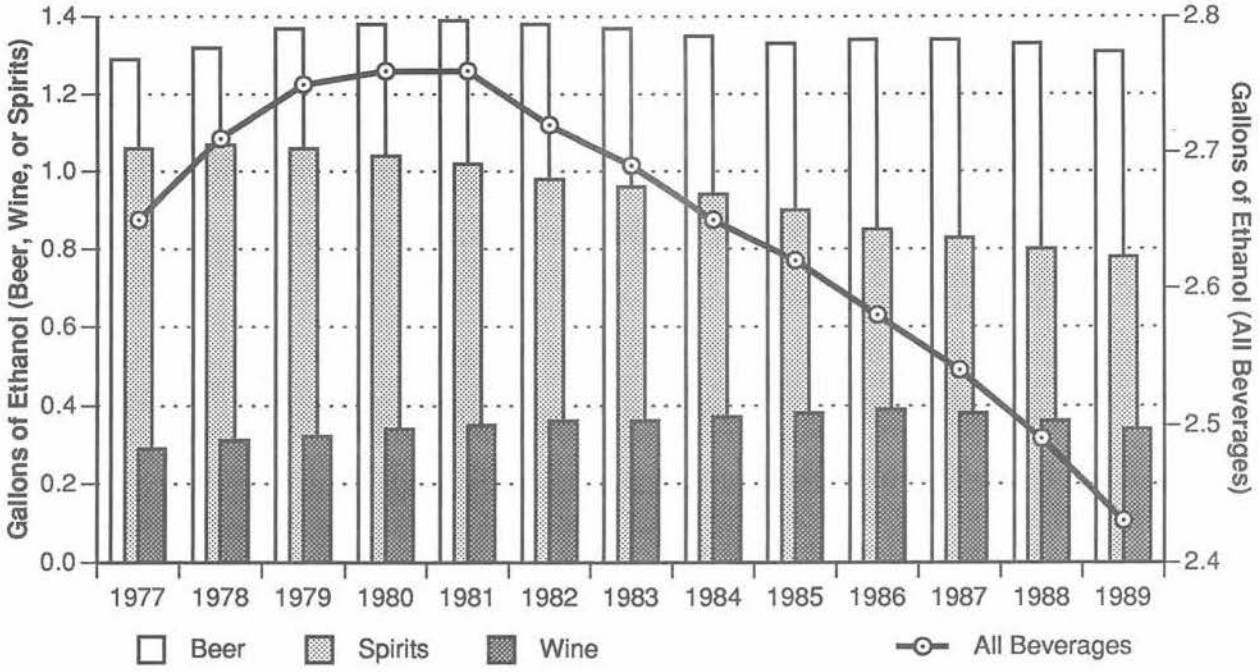
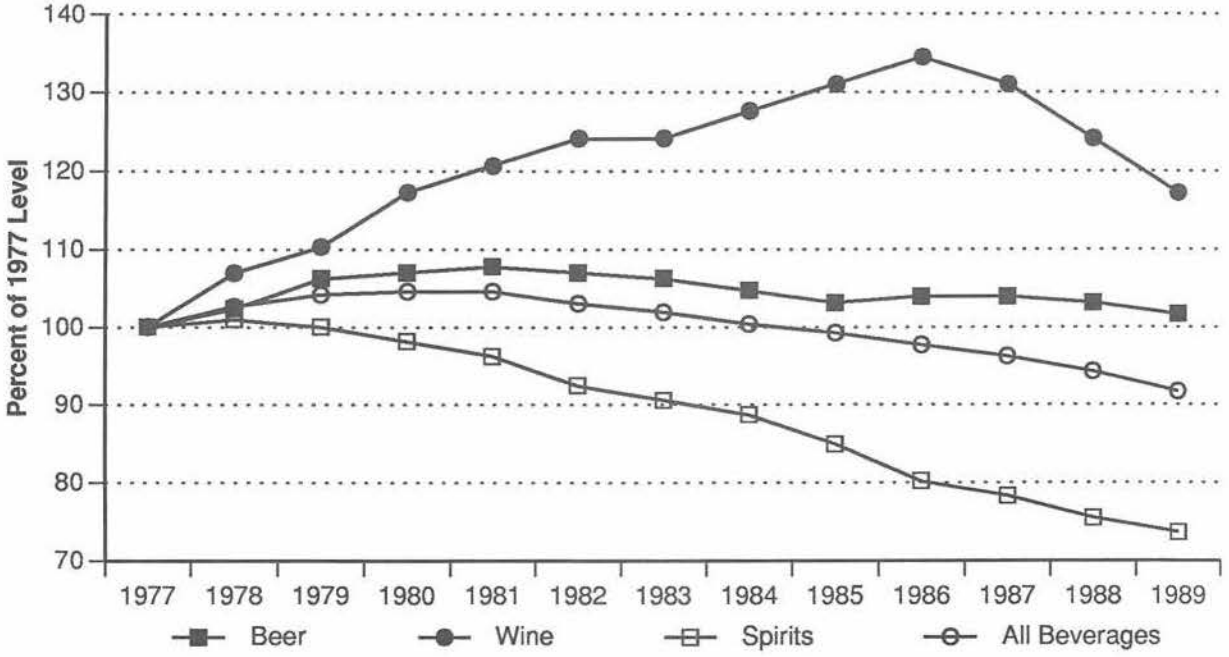


Figure 3. Percent Change in Per Capita Ethanol Consumption, 1977- 1989



marketplace in the coming years. In 1989 wine represented 14 percent of total per capita ethanol consumption. Wine ranked seventh (behind soft drinks, coffee, milk, beer, bottled water, and tea) in the total consumption of all kinds of beverage products in 1989 (Jobson 1990a).

Per capita consumption of spirits decreased again in 1989, continuing a decline that has been consistent for more than a decade. In fact, per capita ethanol consumption from distilled spirits in 1989 was at its lowest level in 34 years. Still, in 1989 spirits consumption accounted for 32 percent of the total ethanol consumed in the United States.

The relative consumption of the different types of alcoholic beverages often is shown in national survey data. For example, the 1988 NHIS indicates that 64 percent of the population of drinkers aged 18 years and older drink beer, 43 percent drink wine, and 40 percent drink spirits. Drinkers in the NHIS are defined as persons who consumed 12 or more drinks in the year prior to their interview (AEDS 1990).

The decline over the past 12 years in overall per capita consumption (2.64 vs. 2.43 gallons ethanol) represents a decrease that first began in 1982. The driving force in this decline has been the substantial decrease (1.06 vs. 0.78 gallons ethanol) in the per capita consumption of spirits. Consumption of wine, on the other hand, has increased and then decreased over the years. Only the consumption of beer has remained relatively stable over the period studied. The factors that have influenced these declines are not completely understood, but they are thought to include factors such as higher prices from increases in state and federal taxes, growing concerns about drunk driving, liabilities introduced under dram shop laws, increases in the minimum drinking age, and consumer taste changes (Distilled Spirits Industry 1985). Whatever the causes, declines in consumption are expected through the 1990s with annual decreases for spirits (2.0%), wine (1.5%), and beer (0.5%) (M. Shanken 1991a, 1991b, 1991c).

STATE DATA

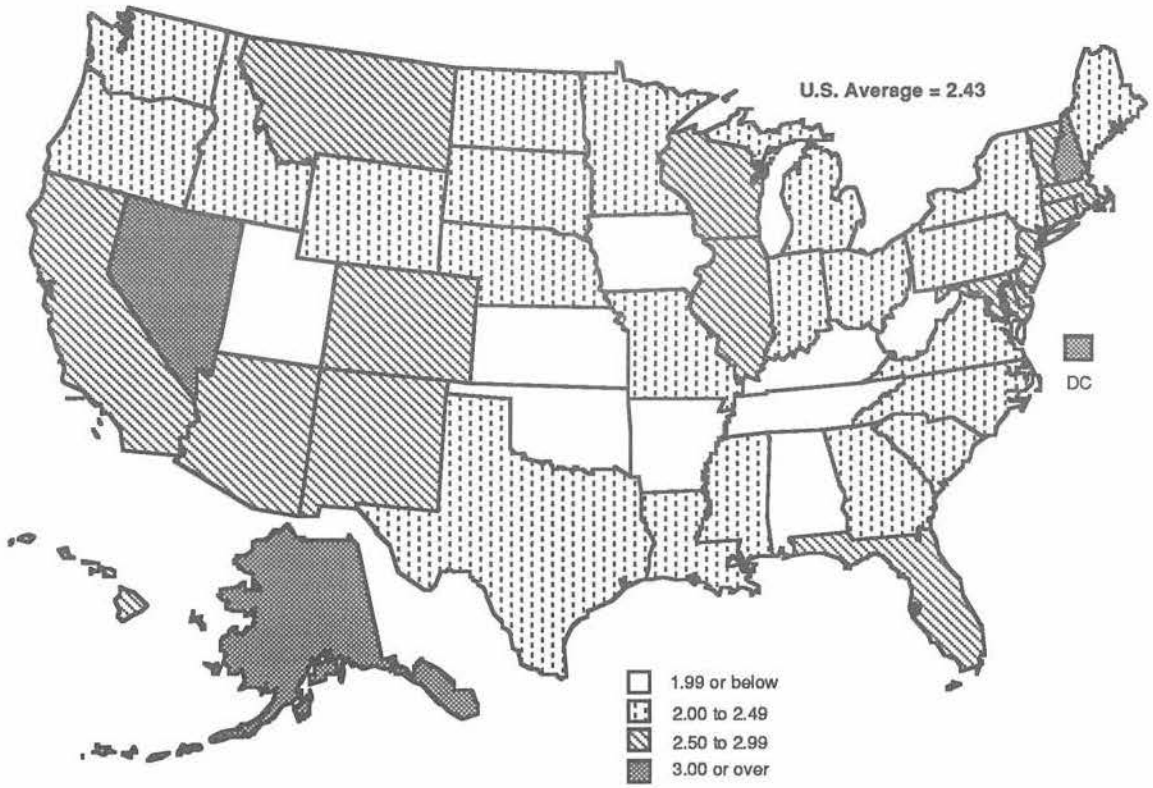
Apparent Consumption for 1989

Table 2 presents the new 1989 consumption data on total beverage volume, total ethanol volume, and per capita ethanol volume of beer, wine, spirits, and total beverages for each of the 50 states and the District of Columbia. The data also are aggregated into census regions (the Northeast, Midwest, South, and West) and the United States as a whole. Data in this table are comparable with the consumption data presented in the earlier surveillance reports.

Table 2 ranks the states and the District of Columbia into 10 groups (deciles) based upon high-to-low distributions of total per capita ethanol consumption. Placement in the first decile indicates that the state ranks among the top 10 percent of the states in total per capita ethanol consumption, placement in the second decile indicates the top 20 percent, and so on. In 1989 the states in the highest decile on total per capita consumption were Nevada (4.85), New Hampshire (4.38), the District of Columbia (4.23), Alaska (3.28), and Wisconsin (2.97). The states in the lowest decile were Kansas (1.78), Kentucky (1.76), Oklahoma (1.71), West Virginia (1.60), and Utah (1.43).

Figure 4 shows 1989 total per capita consumption for each state and the District of Columbia. This map indicates four levels of per capita

Figure 4. Total Per Capita Consumption in Gallons of Ethanol by State, 1989



consumption, levels that are consistent with figures in the U.S. Alcohol Epidemiologic Data Reference Manual, Volume 1 (Doernberg and Stinson 1985) and previous consumption surveillance reports. The use of consistent scales in the maps permits users of this report to make quick visual comparisons between 1989 and previous years.

Table 3 (at the end of this report) presents state and District of Columbia per capita consumption data from 1977 to 1989 for each alcoholic beverage type and for all beverages combined. In addition, Table 3 presents aggregations of the per capita consumption data for the census regions and the United States as a whole. Decile rankings for the states have been computed for total per capita ethanol consumption. Users should interpret decile changes with caution and with special reference to the actual figures of per capita consumption. Very small increases or decreases in per capita consumption values can result in changes in the decile rankings of the states.

Considerable variation in per capita consumption was displayed among the states over the period from 1977 to 1989, but the decile rankings have remained fairly uniform. Even so, the decile rankings of some states changed from year to year. For example, from 1988 to 1989, Delaware dropped out of the highest (first) decile, and Kansas fell from the ninth to the lowest (10th) decile.

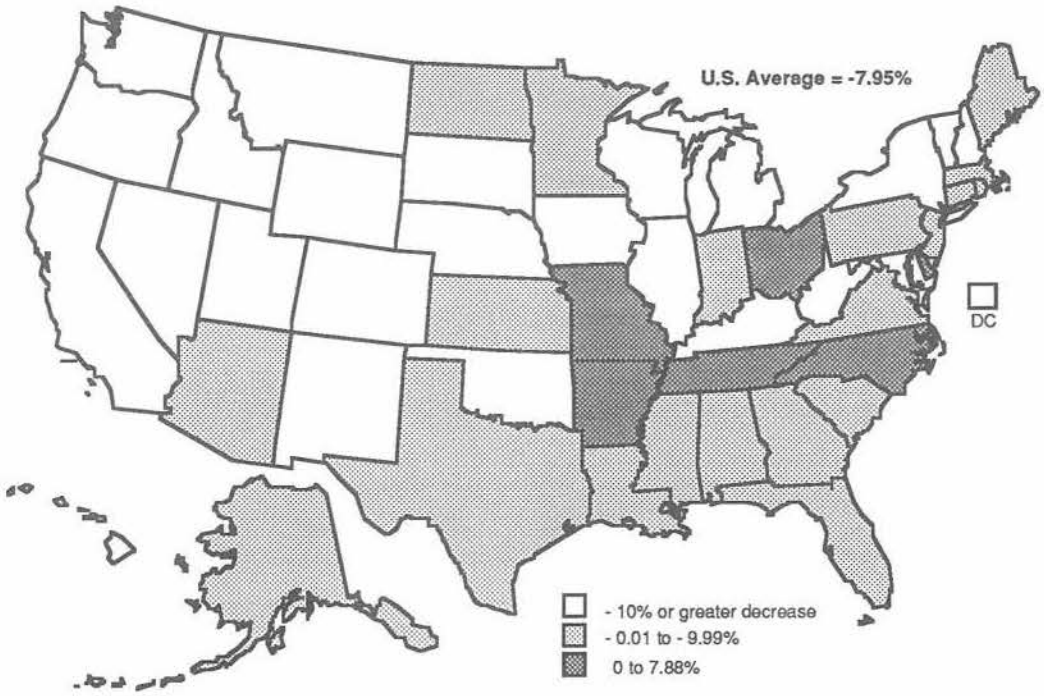
Overall, most states that had a change in their decile ranking between

1988 and 1989 had only a very small change in their per capita consumption value. This is because most other states experienced declines in consumption, and deciles are relative to rankings, not to the magnitude of the per capita values. When per capita values are declining generally, there is less chance of a change in a state's decile ranking relative to the other states. For example, the states of New Jersey, Pennsylvania, and Texas moved up one decile to deciles of four, eight and six, respectively, from 1988, even though their respective per capita consumption changes were only 0.01 points. Louisiana even changed from the seventh decile to the sixth decile, although its 1989 per capita consumption estimate was identical to its 1988 estimate.

Nevada illustrates how deciles fail to reflect the magnitude of the values of per capita ethanol consumption. Since 1977 per capita consumption in Nevada has dropped by 1.99 gallons of ethanol (4.85 vs. 6.84). However, the state consistently ranks in the highest decile for per capita consumption. Also, between 1988 and 1989 the District of Columbia had the largest per capita decline (0.27 gallons) in ethanol consumption, but it still ranks in the first, or highest, decile.

Percentage increases or decreases in overall per capita consumption among the individual states between 1977 and 1989 are shown in Figure 5. The only states to experience increases in their per capita ethanol consumption between 1977 and 1989 were Ohio (2.0%), Arkansas (7.9%), and North Carolina (1.0%). Total per capita consumption in Missouri, Delaware, and Tennessee was the same in 1989 as it was in 1977. The greatest decreases in per capita

Figure 5. Percent Change in Total Per Capita Ethanol Consumption by State, 1977-1989



consumption occurred in Nevada (29.1%), Wyoming (27.8%), the District of Columbia (23.5%), New Hampshire (17.7%), and Montana (17.6%). Like the decile changes, these percentage changes should be interpreted with reference to the specific per capita consumption values for 1977 and 1989.

REGIONAL DATA

Several AEDS analyses have been conducted over the years using the census regions* as the unit of analysis. One advantage in using census regions is that the per capita consumption data often can be compared with other census data and with national surveys (e.g., drinking and food frequency surveys) that also can be grouped by region.

Trends in Consumption for All Beverages, 1977-89

Figure 6 presents regional apparent per capita ethanol consumption estimates for all beverages combined. Overall per capita consumption tends to be highest in the West, followed by the Northeast, and lastly by the Midwest and South. The latter two regions show relatively little difference in their patterns of overall per capita consumption. Generally, the South continues to have the lowest overall per capita consumption while the West continues to have the highest.

In the West the decline since 1981 in per capita consumption of all alcohoic beverages combined has been rather precipitous. Comparatively, changes in the Northeast and Midwest over the years generally have been minimal, yet all areas show overall decreases in per capita consumption compared to 1977 levels. In comparison to the national 1977-1989 decrease (8.0%) in per capita ethanol consumption, decreases in the West (13.7%) and the Northeast (8.9%) have been above average, while decreases in the South (4.9%) and Midwest (6.8%) have been below average.

Trends in Consumption for Individual Beverage Types, 1977-89

National trends in consumption of all beverages combined often masks regional differences in the consumption of specific beverage types. Figure 7 presents 1977-1989 apparent per capita consumption estimates for beer in the four census regions. Beer consumption tends to be highest in the West, followed by the Midwest, South, and Northeast. From 1977 to 1989, the South showed the largest increase in per capita beer consumption (from 1.25 to 1.33 gallons); the Midwest had the second largest increase (from 1.32 to 1.34 gallons). The Northeast region showed a slight decrease in per capita beer consumption (from 1.25 to 1.22 gallons), as did the West (from 1.38 to 1.36 gallons). Year to year variations in per capita beer consumption are notable, especially in the West, where beer consumption dropped dramatically from 1981 to 1985, increased again in 1986, and decreased in 1987, 1988, and 1989. Finally, per capita beer consumption in

* The following are the U.S. Bureau of the Census regions and the states they comprise: Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont. Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin. South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia. West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Figure 6. Total Per Capita Ethanol Consumption by Region, 1977-1989

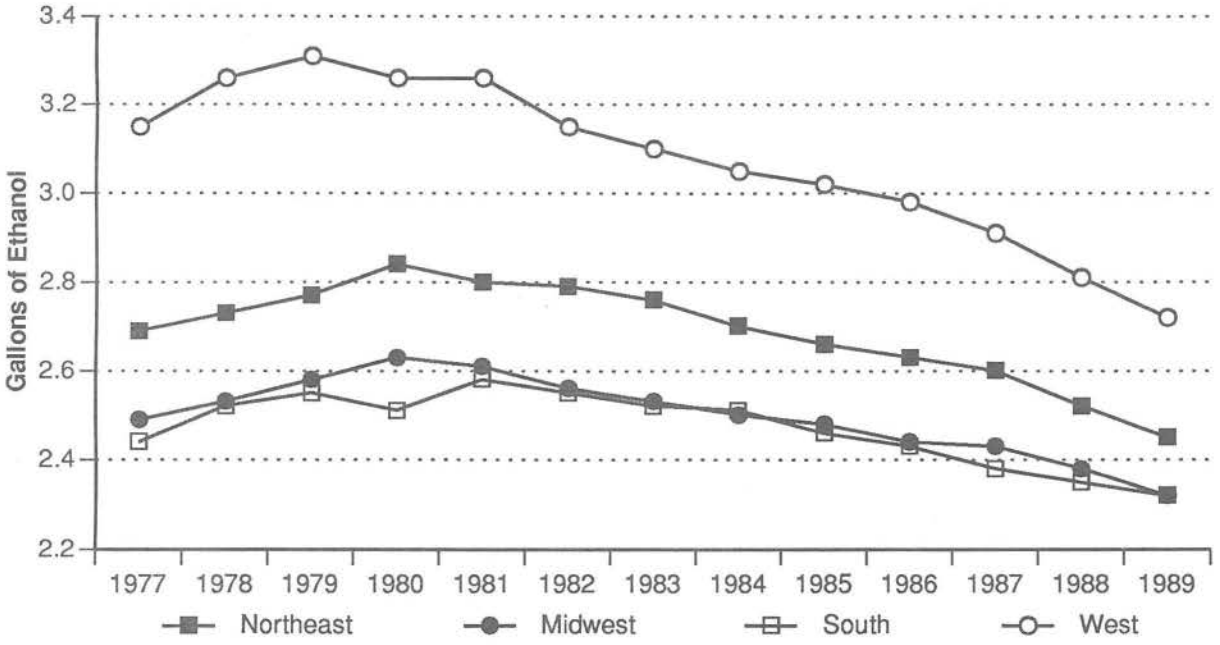
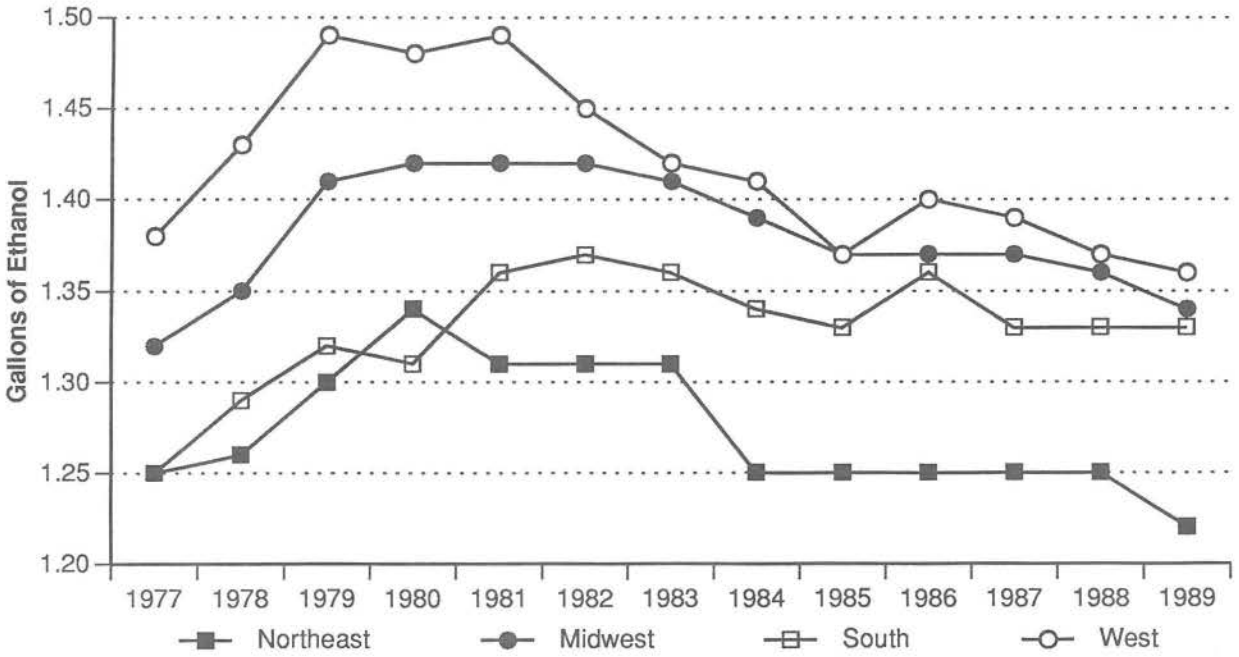


Figure 7. Per Capita Ethanol Consumption from Beer by Region, 1977-1989



the Northeast dropped to 1.22 gallons in 1989, following five years at a constant 1.25 gallons of ethanol.

Regional patterns for wine consumption also differed among the regions, as shown in Figure 8. Again, the West showed the largest levels of per capita consumption. The Midwest and South had the lowest levels of per capita wine consumption, with little difference between the two. All of the census regions showed gradual increases in per capita wine consumption from 1977 to 1986 and then annual declines each year thereafter. Except for the West, with a 10.5 percent decrease in wine consumption between 1988 and 1989, regional decreases were quite moderate. All regions but the West showed per capita wine consumption increases over the 12-year study period: Northeast (0.34 to 0.39 gallons); Midwest (0.21 to 0.26 gallons); South (0.19 to 0.26 gallons). Per capita wine consumption in the West dropped from .54 gallons in 1977 to .51 gallons in 1989, a drop of 5.3 percent.

The largest regional changes in per capita consumption have occurred in the per capita consumption of spirits (Figure 9). In 1989 the West and Northeast had per capita spirits consumption estimates of 0.85 gallons of ethanol, followed by the South and Midwest at 0.74 and 0.72 gallons, respectively. All regions showed a decrease in spirits consumption from 1977 to 1989. The West showed the largest per capita decrease in spirits ethanol (1.22 to 0.88 gallons), followed by the South (1.01 to 0.74 gallons), the Midwest (0.96 to 0.72 gallons), and the Northeast (2.69 to 2.45 gallons). Except for the Northeast, with a modest (8.9%) drop in 1977-1989 spirits consumption, the other regions experienced quite substantial decreases: Midwest (25.0%); South (26.7%); and the West (30.3%).

ADJUSTED PER CAPITA CONSUMPTION FOR SELECTED STATES

Apparent per capita consumption rates reported in Tables 1 and 2 are based on the total population of persons aged 14 years and older. These data rather grossly underestimate average consumption confined only to those individuals who drink alcoholic beverages. This is because nondrinkers as well as drinkers aged 14 years and older are included in the denominator used to calculate the rates. It is known both that substantial numbers of persons do not drink alcoholic beverages and that the percentage of these abstainers varies from state to state. When estimates of the abstaining population are available, abstainers can be subtracted from the population used in calculating per capita consumption (i.e., the denominator data), thereby providing a crude adjustment for abstention and a more realistic estimate of average consumption among the drinking population.

In order to adjust for abstention in the surveillance of annual per capita ethanol consumption, it is necessary to have annual estimates of the percentage of abstainers in the population. The Behavioral Risk Factors Survey (BRFS), conducted by individual states and coordinated with CDC, provides annual percentage estimates of the abstainers in the participating states (CDC 1986, 1987, 1988, 1989). The BRFS is a telephone survey of persons aged 18 years and older. In 1989, 39 states and the District of Columbia participated in the BRFS. It is expected that participation among the states will increase further in future years. The BRFS questions related to alcohol consumption deal with the month prior

Figure 8. Per Capita Ethanol Consumption from Wine by Region, 1977-1989

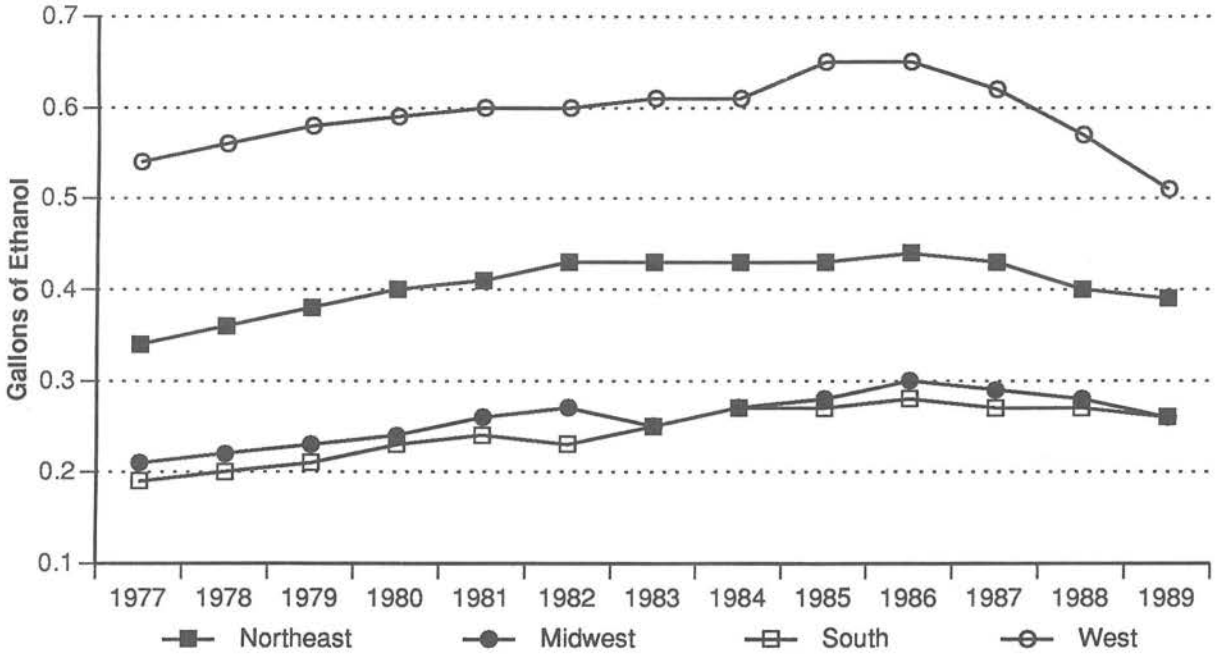
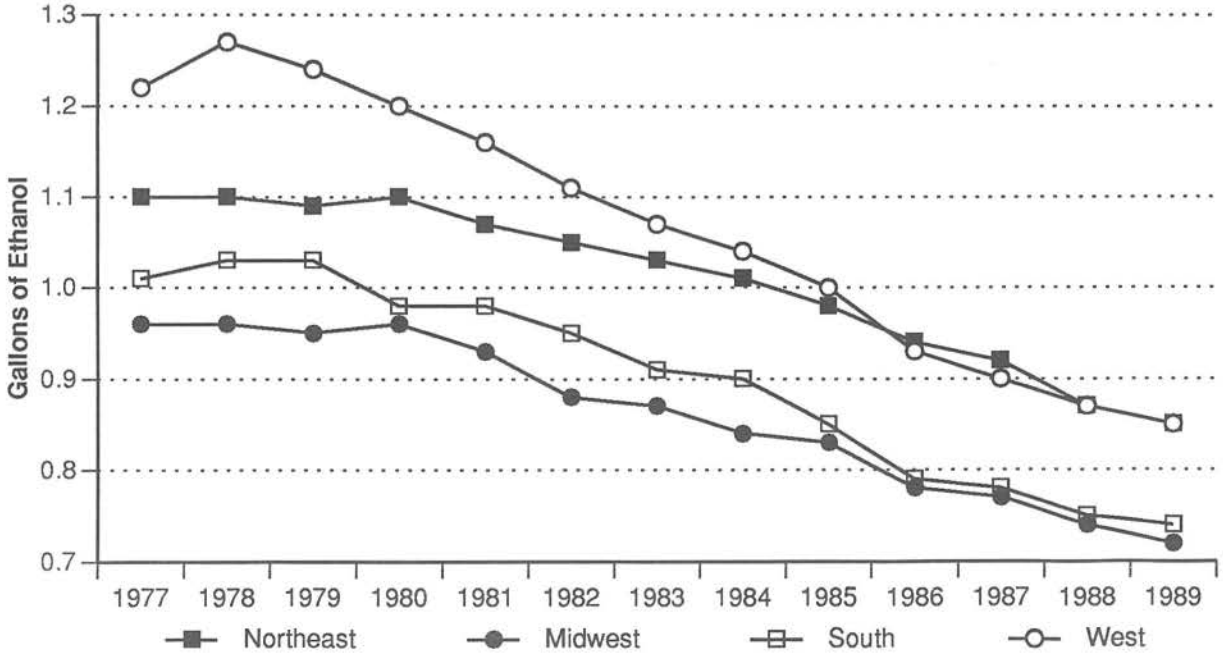


Figure 9. Per Capita Ethanol Consumption from Spirits by Region, 1977-1989



to the interview. From answers to the alcohol questions, population estimates can be made of the percentage of abstainers (persons who consumed no alcoholic beverages in the month prior to their telephone interview).

Table 4 presents the estimated percentage of abstainers in 1986 to 1989 for each of the states participating in the BRFS. Adjusted and unadjusted estimates of the per capita alcohol consumption also are provided. The adjusted rates are only crude approximations, because the respondents may have consumed alcohol during the year of the interview, but not during the month prior to the interview. Thus, BRFS "abstainers" may include people who are infrequent drinkers, or even heavier drinkers who have not had a drink for the past 30 days because of illness, alcoholism treatment, or other circumstances.

Also, given the size of the state BRFS samples, there are relatively large confidence intervals involved in the estimates of the percentage of abstainers for 1986 through 1989. Nonetheless, because the estimates are for the drinking population, the adjusted per capita estimates in Table 4 should be interpreted as a closer approximation of "true" per capita consumption. These per capita estimates are based on the population aged 18 years and older; thus, comparisons with other per capita estimates in this report are inappropriate.

In 1989 the percentages of BRFS abstainers ranged from a low of 30.1 percent in Wisconsin to a high of 69.7 percent in West Virginia. In the subset of states for which data are available, adjusting for abstention rates makes a dramatic difference in the per capita consumption ranking of the states. One striking effect can be seen among several states in the South whose historically low levels of per capita consumption are likely due, in large part, to high percentages of abstainers in the states' populations. The per capita consumption estimates based upon the drinking population in these states are more in line with the estimates of the other states. Generally, those states with high rates of abstention showed substantial increases in the adjusted per capita consumption estimates. States with relatively low abstention rates had adjusted per capita consumption estimates more in line with the unadjusted rates.

The percentage of abstainers increased in 29 of the 37 states that participated in both the 1988 and the 1989 BRFS. However, in most cases the increases in the abstention rates were rather slight, and the differences probably were not statistically significant. It is expected that future surveillance reports will continue monitoring this type of adjusted per capita consumption as the data become available.

CONCLUSIONS

Annual per capita consumption of all alcoholic beverages combined in 1989 was 2.43 gallons of ethanol, down 1.2 percent from the 1988 estimate, and at its lowest level since 1967. Even per capita consumption of beer dropped slightly from its 1988 level. Per capita consumption of wine in 1989 continued the recent decrease that started in 1987. Per capita consumption of spirits also continued a decline that started in 1979, and its current value is at its lowest level since 1955.

In general, regional trends reflected national trends. In 1989 per capita beer consumption decreased in every region

but the South, where it remained at its 1988 level. Per capita consumption of wine showed decreases in all of the regions, including the West where it declined by 10.5 percent between 1988 and 1989. Also, since 1977 per capita consumption of spirits has decreased 25 percent or more in each of the four census regions, except in the Northeast, which has had a 8.9 percent decrease.

Some market analysts believe that the rate in the decrease in consumption is slowing (Jobson 1988a), but this may reflect marketing optimism within the beverage industry. Other market analysts are forecasting, with the possible exception of beer, continued annual declines in wine and spirits consumption through the 1990s (M. Shanken, 1991a, 1991b, 1991c). A variety of major demographic and social factors in the United States are likely to influence future trends both in overall and in beverage-specific per capita consumption.

The general aging of the population in the United States suggests that decreases in per capita ethanol consumption are likely to continue in coming years. Survey data on drinking continue to show that average consumption of alcoholic beverages is lower among older age groups (65 years of age and older) than among younger age groups (AEDS 1986, 1990). Thus, changes related to the aging of the population and the drinking practices of older Americans are likely to have moderating influences on future trends of alcohol consumption.

The proportion of women in the population also is likely to influence future per capita consumption levels. Women tend to have fairly high rates of abstention, and, as drinkers, they tend to drink less frequently and less heavily than men. Population data show that women make up a larger proportion of the total adult population, primarily because of their lower mortality rate and longer life expectancies. Even a small growth in the proportion of women in the population, therefore, could influence trends in per capita alcohol consumption.

In addition, the growth of minority populations may influence per capita consumption trends in the coming years. Westerman (1989) notes that minority populations are projected to make up 30 percent of the total population by the year 2000. Drinking behaviors among minority groups, however, are extremely diverse. For example, African-Americans, Hispanic women, and Asian-Americans generally exhibit lower levels of drinking than the general population. Hispanic men of all origins, on the other hand, tend to have high rates of heavier drinking (Caetano 1989). American Indian populations are so diverse in their drinking practices among tribes that they defy general conclusions (Heath 1989). Because most ethnic groups do not consume large quantities of alcohol, and those that do drink heavily make up a small proportion of the minority population, the overall growth of the minority population likely will depress per capita consumption rates.

Recent events that also could influence consumption rates among minority groups in the future are the formation of minority advocacy groups to counter beverage industry efforts to target minority populations with products such as malt liquors and fortified wines, which are above average in ethanol content. Certain targeting practices of the beverage industry could promote a backlash among certain segments of the population.

Few of the known factors that seem to influence alcohol consumption seem particularly predictive of increases in

future per capita consumption. The increased federal excise taxes on all alcoholic beverages (effective January 1990), increased state taxes on alcoholic beverages as states try to balance tight budgets, and recent laws requiring warning labels on alcoholic beverage containers are all likely to promote decreases in the sale and, eventually, the consumption of alcoholic beverages. More predictable penalties for drinking and driving (such as administrative license suspension), more uniform enforcement of drinking age laws, and possible restrictions on alcoholic beverage advertising are all likely to lead to further reductions in per capita consumption.

The annual declines in per capita consumption presented in this report also are supported by data from recent survey comparisons (Williams and DeBakey, in press) that suggest a significant decrease in heavier drinking (defined generally as two or more drinks per day) and a significant increase in abstention. None of the above factors provides certain and reliable forecasts of any further future decreases in per capita consumption. It remains to be seen whether current declines in consumption continue in the future. However, some of the 1989 levels of per capita consumption shown in this report have reached levels that have not been evident since the 1950s and early 1960s. If such trends continue, strong pressures will be exerted on the marketing and advertising industry to aggressively counterbalance or slow the downward trends.

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Table 1

Apparent Per Capita Ethanol Consumption for United States, 1850-1989
[Gallons of ethanol, based on population age 15 and older prior to 1970 and on population age 14 and older thereafter]

Year	Beer	Wine	Spirits	All Beverages
1989	1.31	0.34	0.78	2.43
1988	1.33	0.36	0.80	2.49
1987	1.34	0.38	0.83	2.54
1986	1.34	0.39	0.85	2.58
1985	1.33	0.38	0.90	2.62
1984	1.35	0.37	0.94	2.65
1983	1.37	0.36	0.96	2.69
1982	1.38	0.36	0.98	2.72
1981	1.39	0.35	1.02	2.76
1980	1.38	0.34	1.04	2.76
1979	1.37	0.32	1.06	2.75
1978	1.32	0.31	1.07	2.71
1977	1.29	0.29	1.06	2.64
1976	1.27	0.32	1.10	2.69
1975	1.26	0.32	1.11	2.70
1974	1.25	0.31	1.11	2.67
1973	1.20	0.31	1.10	2.62
1972	1.17	0.30	1.09	2.56
1971	1.15	0.31	1.12	2.59
1970	1.14	0.27	1.11	2.52
1969	1.12	0.26	1.13	2.51
1968	1.09	0.26	1.10	2.45
1967	1.07	0.25	1.05	2.37
1966	1.06	0.24	1.02	2.32
1965	1.04	0.24	0.99	2.27
1964	1.04	0.24	0.95	2.23
1963	1.01	0.23	0.91	2.15
1962	0.99	0.22	0.90	2.11
1961	0.97	0.23	0.86	2.06
1960	0.99	0.22	0.86	2.07
1959	1.00	0.22	0.84	2.06
1958	0.96	0.22	0.80	1.98
1957	0.97	0.22	0.80	1.99
1956	1.00	0.22	0.81	2.03
1955	1.01	0.22	0.77	2.00
1954	1.01	0.21	0.74	1.96
1953	1.04	0.20	0.77	2.01
1952	1.04	0.21	0.73	1.98
1951	1.03	0.20	0.78	2.01
1950	1.04	0.23	0.77	2.04
1949	1.06	0.22	0.70	1.98
1948	1.07	0.20	0.70	1.97
1947	1.11	0.16	0.76	2.03
1946	1.07	0.24	0.99	2.30
1945	1.17	0.20	0.88	2.25
1944	1.13	0.18	0.76	2.07
1943	1.00	0.17	0.66	1.83
1942	0.90	0.22	0.85	1.97
1941	0.81	0.18	0.71	1.70
1940	0.73	0.16	0.67	1.56

Table 1 (continued)

Apparent Per Capita Ethanol Consumption for United States, 1850-1989
[Gallons of ethanol, based on population age 15 and older prior to 1970 and on population age 14 and older thereafter]

Year	Beer	Wine	Spirits	All Beverages
1939	0.75	0.14	0.62	1.51
1938	0.75	0.13	0.59	1.47
1937	0.82	0.13	0.64	1.59
1936	0.79	0.12	0.59	1.50
1935	0.68	0.09	0.43	1.20
1934	0.61	0.07	0.29	0.91
(PROHIBITION)				
1916-19	1.08	0.12	0.76	1.96
1911-15	1.48	0.14	0.94	2.56
1906-10	1.47	0.17	0.96	2.60
1901-05	1.31	0.13	0.95	2.39
1896-1900	1.19	0.10	0.77	2.06
1891-95	1.17	0.11	0.95	2.23
1881-90	0.90	0.14	0.95	1.99
1871-80	0.56	0.14	1.02	1.72
1870	0.44	0.10	1.53	2.07
1860	0.27	0.10	2.16	2.53
1850	0.14	0.03	1.88	2.05

SOURCES: Williams, G.; Stinson, F.; Brooks, S.; and Noble, J. *Surveillance Report # 16: Apparent Per Capita Consumption: National, State, and Regional Trends, 1977-1988.* Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, Division of Biometry and Epidemiology, Alcohol Epidemiologic Data System, February 1991.

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Table 2

Apparent Alcohol Consumption for States, Census Regions and United States, 1989

[Volume and ethanol in thousands of gallons, per capita consumption in gallons, based on population age 14 and older]

State or Other Geographic Area	Beer			Wine			Spirits			All Beverages		
	Volume	Ethanol	Per Capita	Volume	Ethanol	Per Capita	Volume	Ethanol	Per Capita	Ethanol	Per Capita	U.S. Decile
AL	79,990	3,600	1.10	4,267	550	0.17	4,735	1,960	0.60	6,110	1.87	9
AK	13,624	613	1.57	1,389	179	0.46	1,172	485	1.24	1,278	3.28	1
AZ	103,057	4,638	1.68	7,717	996	0.36	5,733	2,374	0.86	8,007	2.89	2
AR	45,736	2,058	1.08	1,857	240	0.13	2,649	1,097	0.58	3,394	1.78	9
CA	664,432	29,899	1.31	107,760	13,901	0.61	48,041	19,889	0.87	63,690	2.79	2
CO	81,418	3,664	1.40	7,524	971	0.37	5,333	2,208	0.84	6,842	2.61	3
CT	64,158	2,887	1.09	9,632	1,243	0.47	6,324	2,618	0.99	6,748	2.55	4
DE	16,769	755	1.40	1,584	204	0.38	1,477	612	1.13	1,571	2.91	2
DC	16,238	731	1.49	3,352	432	0.88	2,200	911	1.86	2,074	4.23	1
FL	349,367	15,722	1.51	31,189	4,023	0.39	25,357	10,498	1.01	30,243	2.91	2
GA	132,593	5,967	1.18	9,492	1,225	0.24	11,547	4,781	0.95	11,972	2.38	6
HI	30,138	1,356	1.54	2,910	375	0.43	1,689	699	0.79	2,431	2.76	3
ID	21,195	954	1.23	1,828	236	0.30	1,049	434	0.56	1,624	2.10	8
IL	286,154	12,877	1.38	25,448	3,283	0.35	18,679	7,733	0.83	23,893	2.57	4
IN	120,376	5,417	1.21	6,668	860	0.19	6,873	2,845	0.64	9,122	2.04	8
IA	63,940	2,877	1.26	3,208	414	0.18	2,775	1,149	0.50	4,440	1.94	9
KS	48,725	2,193	1.10	1,995	257	0.13	2,604	1,078	0.54	3,528	1.78	10
KY	71,336	3,210	1.08	2,727	352	0.12	4,092	1,694	0.57	5,256	1.76	10
LA	106,895	4,810	1.43	6,082	785	0.23	5,859	2,426	0.72	8,021	2.38	6
ME	27,434	1,235	1.25	2,587	334	0.34	2,040	844	0.86	2,413	2.45	5
MD	101,930	4,587	1.22	9,986	1,288	0.34	9,041	3,743	0.99	9,618	2.55	4
MA	136,583	6,146	1.26	17,659	2,278	0.47	12,028	4,979	1.02	13,404	2.76	3
MI	210,798	9,486	1.29	16,879	2,177	0.30	14,354	5,943	0.81	17,606	2.39	6
MN	98,078	4,414	1.28	7,168	925	0.27	7,425	3,074	0.89	8,412	2.44	5
MS	56,647	2,549	1.26	1,451	187	0.09	3,201	1,325	0.65	4,061	2.01	9
MO	122,308	5,504	1.33	7,147	922	0.22	6,904	2,858	0.69	9,284	2.25	7
MT	21,916	986	1.56	1,417	183	0.29	1,111	460	0.73	1,629	2.57	4
NE	38,809	1,746	1.37	1,914	247	0.19	1,928	798	0.63	2,792	2.19	7
NV	43,018	1,936	2.18	5,039	650	0.73	4,140	1,714	1.93	4,300	4.85	1
NH	36,858	1,659	1.87	3,452	445	0.50	4,304	1,782	2.01	3,886	4.38	1

See footnote at end of table

Table 2 (continued)

Apparent Alcohol Consumption for States, Census Regions and United States, 1989

[Volume and ethanol in thousands of gallons, per capita consumption in gallons, based on population age 14 and older]

State or Other Geographic Area	Beer			Wine			Spirits			All Beverages		
	Volume	Ethanol	Per Capita	Volume	Ethanol	Per Capita	Volume	Ethanol	Per Capita	Ethanol	Per Capita	U.S. Decile
NJ	158,485	7,132	1.13	24,550	3,167	0.50	14,658	6,068	0.96	16,367	2.60	3
NM	42,497	1,912	1.64	2,606	336	0.29	1,831	758	0.65	3,007	2.58	4
NY	359,860	16,194	1.12	47,336	6,106	0.42	28,984	12,000	0.83	34,300	2.36	7
NC	133,314	5,999	1.13	11,230	1,449	0.27	8,488	3,514	0.66	10,962	2.07	8
ND	15,777	710	1.38	683	88	0.17	1,050	435	0.84	1,233	2.39	6
OH	260,695	11,731	1.35	15,030	1,939	0.22	10,689	4,425	0.51	18,095	2.08	8
OK	59,395	2,673	1.05	2,601	336	0.13	3,262	1,351	0.53	4,359	1.71	10
OR	63,514	2,858	1.26	8,133	1,049	0.46	3,814	1,579	0.70	5,486	2.42	6
PA	296,136	13,326	1.36	13,827	1,784	0.18	13,353	5,528	0.56	20,638	2.10	7
RI	24,783	1,115	1.37	2,915	376	0.46	1,721	713	0.87	2,204	2.70	3
SC	84,388	3,797	1.37	5,192	670	0.24	5,767	2,388	0.86	6,855	2.47	5
SD	15,473	696	1.25	629	81	0.15	947	392	0.70	1,169	2.10	8
TN	104,120	4,685	1.18	4,248	548	0.14	5,673	2,349	0.59	7,582	1.91	9
TX	468,126	21,066	1.62	26,733	3,449	0.26	18,362	7,602	0.58	32,116	2.46	5
UT	21,680	976	0.82	1,237	160	0.13	1,364	565	0.47	1,700	1.43	10
VT	14,720	662	1.45	1,818	235	0.51	971	402	0.88	1,299	2.85	2
VA	134,680	6,061	1.23	11,879	1,532	0.31	7,770	3,217	0.65	10,810	2.19	7
WA	104,217	4,690	1.24	13,670	1,763	0.47	6,929	2,869	0.76	9,322	2.46	5
WV	37,567	1,691	1.12	1,234	159	0.11	1,377	570	0.38	2,420	1.60	10
WI	146,865	6,609	1.71	9,198	1,186	0.31	8,940	3,701	0.95	11,497	2.97	1
WY	10,936	492	1.35	611	79	0.22	726	301	0.82	872	2.39	6
Regions												
Northeast	1,119,018	50,356	1.22	123,775	15,967	0.39	84,382	34,934	0.85	101,257	2.45	•
Midwest	1,427,998	64,260	1.34	95,966	12,380	0.26	83,167	34,431	0.72	111,071	2.32	•
South	1,999,090	89,959	1.33	135,105	17,429	0.26	120,859	50,036	0.74	157,423	2.32	•
West	1,221,643	54,974	1.36	161,842	20,878	0.51	82,934	34,335	0.85	110,186	2.72	•
U.S. Total	5,767,750	259,549	1.31	516,689	66,653	0.34	371,342	153,736	0.78	479,937	2.43	•

• Decile values apply only to state-level data. Numbers may not add due to rounding.

Table 3

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Alabama					
1989	1.10	.18	.60	1.87	9
1988	1.10	.18	.61	1.90	9
1987	1.10	.18	.61	1.89	9
1986	1.09	.18	.64	1.91	9
1985	1.06	.17	.67	1.90	9
1984	1.02	.19	.69	1.90	10
1983	1.01	.17	.71	1.89	10
1982	1.00	.18	.72	1.89	10
1981	1.00	.19	.73	1.92	10
1980	.96	.16	.74	1.86	10
1979	.98	.12	.84	1.94	10
1978	.98	.12	.88	1.97	9
1977	.99	.13	.84	1.96	9
Alaska					
1989	1.57	.46	1.24	3.28	1
1988	1.60	.49	1.24	3.33	1
1987	1.64	.54	1.30	3.48	1
1986	1.68	.56	1.28	3.52	1
1985	1.68	.58	1.53	3.78	1
1984	1.73	.58	1.56	3.86	1
1983	1.76	.61	1.70	4.06	1
1982	1.75	.56	1.74	4.05	1
1981	1.71	.57	1.82	4.10	1
1980	1.55	.50	1.70	3.76	1
1979	1.50	.47	1.65	3.62	1
1978	1.39	.45	1.68	3.52	2
1977	1.19	.42	1.70	3.31	2
Arizona					
1989	1.68	.36	.86	2.89	2
1988	1.64	.42	.89	2.95	2
1987	1.67	.46	.86	2.99	2
1986	1.77	.46	.92	3.15	2
1985	1.67	.46	1.00	3.12	2
1984	1.57	.45	1.06	3.08	3
1983	1.62	.44	1.00	3.06	3
1982	1.74	.40	.99	3.13	3
1981	1.78	.42	1.01	3.22	3
1980	1.69	.36	.98	3.03	4
1979	1.86	.39	1.17	3.42	2
1978	1.77	.37	1.10	3.25	2
1977	1.70	.34	1.05	3.10	3
Arkansas					
1989	1.08	.13	.58	1.78	9
1988	1.07	.14	.54	1.75	10
1987	1.08	.11	.53	1.72	10
1986	1.06	.09	.48	1.64	10
1985	1.03	.13	.58	1.75	10
1984	1.02	.12	.64	1.78	10
1983	1.03	.13	.63	1.78	10
1982	1.03	.12	.63	1.78	10
1981	1.06	.12	.68	1.87	10
1980	1.00	.12	.69	1.81	10
1979	.93	.10	.57	1.60	10
1978	.97	.11	.73	1.82	10
1977	.92	.10	.63	1.65	10

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
California					
1989	1.31	.61	.87	2.79	2
1988	1.34	.68	.89	2.91	2
1987	1.36	.74	.94	3.04	2
1986	1.36	.79	.97	3.12	2
1985	1.32	.78	1.02	3.12	2
1984	1.38	.74	1.07	3.19	1
1983	1.37	.75	1.11	3.23	2
1982	1.37	.72	1.14	3.23	3
1981	1.43	.72	1.21	3.36	2
1980	1.42	.71	1.25	3.38	2
1979	1.42	.70	1.28	3.40	2
1978	1.36	.68	1.32	3.36	2
1977	1.31	.67	1.28	3.25	2
Colorado					
1989	1.40	.37	.84	2.61	3
1988	1.42	.39	.91	2.73	3
1987	1.43	.44	.93	2.80	3
1986	1.47	.46	.94	2.88	3
1985	1.47	.50	1.18	3.15	2
1984	1.51	.46	1.12	3.09	2
1983	1.57	.46	1.12	3.15	2
1982	1.64	.46	1.18	3.28	2
1981	1.63	.44	1.26	3.33	2
1980	1.57	.47	1.31	3.35	2
1979	1.68	.47	1.37	3.52	2
1978	1.64	.47	1.43	3.54	1
1977	1.43	.36	1.22	3.01	3
Connecticut					
1989	1.09	.47	.99	2.55	4
1988	1.14	.51	1.08	2.72	3
1987	1.15	.52	1.13	2.80	3
1986	1.13	.51	1.16	2.80	3
1985	1.14	.50	1.20	2.84	4
1984	1.10	.50	1.20	2.80	4
1983	1.10	.49	1.23	2.82	4
1982	1.04	.49	1.20	2.73	6
1981	1.05	.44	1.18	2.67	6
1980	1.06	.43	1.21	2.70	6
1979	1.13	.40	1.20	2.72	5
1978	1.07	.38	1.20	2.65	6
1977	1.05	.35	1.21	2.61	6
Delaware					
1989	1.40	.38	1.13	2.91	2
1988	1.44	.40	1.20	3.04	1
1987	1.44	.42	1.22	3.08	2
1986	1.45	.44	1.24	3.13	2
1985	1.46	.41	1.30	3.16	2
1984	1.51	.38	1.28	3.17	2
1983	1.53	.35	1.34	3.22	2
1982	1.53	.34	1.36	3.23	3
1981	1.51	.32	1.39	3.23	3
1980	1.45	.29	1.38	3.12	4
1979	1.38	.27	1.34	2.99	4
1978	1.33	.25	1.33	2.91	4
1977	1.32	.24	1.35	2.91	4

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
District of Columbia					
1989	1.49	.88	1.86	4.23	1
1988	1.47	.99	2.04	4.50	1
1987	1.48	1.00	2.39	4.87	1
1986	1.52	1.04	2.21	4.77	1
1985	1.49	1.03	2.42	4.94	1
1984	1.56	1.11	2.68	5.34	1
1983	1.55	1.08	2.79	5.41	1
1982	1.48	1.00	2.91	5.39	1
1981	1.50	1.06	2.92	5.49	1
1980	1.49	.99	2.94	5.42	1
1979	1.48	.99	3.03	5.49	1
1978	1.43	.94	3.14	5.51	1
1977	1.39	.89	3.26	5.53	1
Florida					
1989	1.51	.39	1.01	2.91	2
1988	1.51	.41	1.01	2.92	2
1987	1.51	.42	1.04	2.96	2
1986	1.50	.41	1.06	2.97	2
1985	1.47	.41	1.16	3.04	3
1984	1.48	.40	1.24	3.12	2
1983	1.56	.40	1.23	3.19	2
1982	1.56	.40	1.33	3.29	2
1981	1.55	.39	1.38	3.31	3
1980	1.42	.37	1.43	3.22	3
1979	1.47	.37	1.51	3.34	2
1978	1.41	.34	1.48	3.23	3
1977	1.33	.33	1.47	3.13	2
Georgia					
1989	1.18	.24	.95	2.38	6
1988	1.22	.26	.93	2.41	6
1987	1.22	.27	1.01	2.50	6
1986	1.22	.27	.96	2.44	6
1985	1.17	.25	1.01	2.43	7
1984	1.18	.23	1.06	2.48	7
1983	1.14	.22	1.05	2.42	7
1982	1.12	.21	1.04	2.37	7
1981	1.10	.18	1.09	2.38	8
1980	1.07	.19	1.09	2.35	8
1979	1.17	.19	1.22	2.58	7
1978	1.14	.19	1.26	2.59	7
1977	1.08	.16	1.23	2.47	7
Hawaii					
1989	1.54	.43	.79	2.76	3
1988	1.62	.45	.80	2.87	3
1987	1.57	.40	.77	2.74	3
1986	1.60	.44	.86	2.89	3
1985	1.59	.41	.88	2.88	3
1984	1.65	.41	.91	2.97	3
1983	1.57	.44	1.12	3.13	3
1982	1.80	.48	1.14	3.42	1
1981	1.74	.44	1.16	3.34	2
1980	1.65	.46	1.21	3.31	2
1979	1.60	.44	1.28	3.32	3
1978	1.38	.46	1.30	3.15	3
1977	1.61	.36	1.26	3.23	2

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Idaho					
1989	1.23	.30	.56	2.10	8
1988	1.25	.36	.58	2.19	7
1987	1.31	.38	.58	2.27	7
1986	1.34	.38	.61	2.33	7
1985	1.35	.36	.71	2.42	7
1984	1.40	.31	.72	2.43	7
1983	1.44	.30	.76	2.51	7
1982	1.47	.31	.81	2.58	7
1981	1.54	.33	.83	2.70	6
1980	1.53	.30	.77	2.60	7
1979	1.55	.27	.84	2.65	6
1978	1.50	.26	.80	2.56	7
1977	1.50	.22	.79	2.52	7
Illinois					
1989	1.38	.35	.83	2.57	4
1988	1.42	.37	.85	2.65	4
1987	1.41	.39	.87	2.67	4
1986	1.40	.39	.90	2.68	4
1985	1.38	.37	.98	2.72	5
1984	1.40	.37	1.01	2.77	5
1983	1.42	.35	1.03	2.80	5
1982	1.41	.35	1.06	2.83	5
1981	1.43	.35	1.12	2.91	5
1980	1.43	.33	1.24	3.00	4
1979	1.45	.33	1.17	2.94	4
1978	1.38	.31	1.19	2.88	4
1977	1.35	.30	1.22	2.87	4
Indiana					
1989	1.21	.19	.64	2.04	8
1988	1.23	.21	.67	2.11	8
1987	1.24	.22	.67	2.13	8
1986	1.25	.23	.67	2.15	8
1985	1.25	.22	.72	2.19	8
1984	1.26	.21	.72	2.19	8
1983	1.27	.19	.73	2.19	8
1982	1.29	.18	.76	2.23	8
1981	1.29	.18	.78	2.25	8
1980	1.26	.17	.77	2.21	8
1979	1.23	.15	.79	2.18	8
1978	1.19	.16	.79	2.14	8
1977	1.14	.14	.77	2.05	8
Iowa					
1989	1.26	.18	.50	1.94	9
1988	1.28	.20	.52	2.00	9
1987	1.30	.21	.58	2.09	9
1986	1.32	.19	.53	2.05	9
1985	1.31	.14	.57	2.02	9
1984	1.36	.12	.61	2.09	9
1983	1.38	.13	.64	2.15	8
1982	1.39	.13	.65	2.17	8
1981	1.44	.13	.69	2.27	8
1980	1.41	.13	.71	2.25	8
1979	1.40	.11	.71	2.22	8
1978	1.38	.11	.74	2.22	8
1977	1.33	.10	.74	2.17	8

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Kansas					
1989	1.10	.13	.54	1.78	10
1988	1.11	.21	.56	1.89	9
1987	1.12	.16	.56	1.84	9
1986	1.12	.17	.60	1.89	9
1985	1.17	.15	.64	1.96	9
1984	1.18	.14	.63	1.95	9
1983	1.20	.13	.64	1.96	9
1982	1.22	.13	.67	2.02	9
1981	1.23	.12	.70	2.05	9
1980	1.23	.11	.62	1.96	9
1979	1.17	.11	.73	2.01	9
1978	1.14	.12	.64	1.89	10
1977	1.13	.10	.65	1.88	10
Kentucky					
1989	1.08	.12	.57	1.76	10
1988	1.08	.12	.59	1.80	10
1987	1.03	.14	.60	1.77	10
1986	1.09	.13	.62	1.85	10
1985	1.07	.13	.66	1.86	10
1984	1.05	.12	.68	1.85	10
1983	1.13	.12	.69	1.94	9
1982	1.14	.12	.73	1.99	9
1981	1.13	.10	.75	1.99	9
1980	1.08	.10	.73	1.91	10
1979	1.10	.09	.77	1.97	10
1978	1.07	.09	.77	1.93	10
1977	1.19	.09	.75	2.03	9
Louisiana					
1989	1.43	.23	.72	2.38	6
1988	1.44	.24	.70	2.38	7
1987	1.36	.24	.75	2.35	7
1986	1.39	.26	.78	2.43	7
1985	1.35	.27	.86	2.49	6
1984	1.40	.29	.94	2.63	5
1983	1.43	.30	1.02	2.75	5
1982	1.49	.30	1.00	2.78	5
1981	1.48	.27	1.02	2.77	6
1980	1.41	.27	1.04	2.71	6
1979	1.36	.26	1.08	2.70	6
1978	1.35	.25	1.07	2.67	6
1977	1.30	.25	1.03	2.57	6
Maine					
1989	1.25	.34	.86	2.45	5
1988	1.28	.36	.91	2.55	4
1987	1.26	.38	.91	2.55	5
1986	1.28	.36	.92	2.56	5
1985	1.29	.33	.94	2.56	6
1984	1.25	.31	1.01	2.57	6
1983	1.32	.29	1.03	2.63	6
1982	1.30	.30	1.02	2.63	6
1981	1.24	.28	1.05	2.57	7
1980	1.32	.29	1.06	2.67	6
1979	1.30	.27	1.08	2.65	6
1978	1.31	.27	1.05	2.62	6
1977	1.37	.23	1.04	2.64	5

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Maryland					
1989	1.22	.34	.99	2.55	4
1988	1.26	.36	1.01	2.63	4
1987	1.29	.38	1.07	2.74	3
1986	1.29	.39	1.09	2.76	4
1985	1.31	.36	1.14	2.81	4
1984	1.31	.36	1.17	2.84	4
1983	1.34	.35	1.20	2.89	4
1982	1.27	.32	1.17	2.77	5
1981	1.39	.34	1.33	3.06	4
1980	1.42	.33	1.35	3.09	4
1979	1.43	.31	1.39	3.14	3
1978	1.41	.31	1.38	3.09	3
1977	1.37	.30	1.39	3.05	3
Massachusetts					
1989	1.26	.47	1.02	2.76	3
1988	1.29	.50	1.08	2.87	2
1987	1.29	.51	1.13	2.93	2
1986	1.31	.53	1.13	2.97	2
1985	1.30	.51	1.21	3.01	3
1984	1.30	.51	1.24	3.04	3
1983	1.36	.50	1.21	3.07	3
1982	1.35	.49	1.22	3.07	3
1981	1.44	.49	1.24	3.17	3
1980	1.47	.45	1.27	3.19	3
1979	1.39	.42	1.23	3.04	4
1978	1.37	.40	1.25	3.02	4
1977	1.34	.37	1.24	2.95	3
Michigan					
1989	1.29	.30	.81	2.39	6
1988	1.31	.32	.84	2.47	5
1987	1.32	.33	.86	2.51	6
1986	1.33	.33	.91	2.57	5
1985	1.30	.32	.95	2.58	5
1984	1.32	.31	.97	2.60	6
1983	1.35	.28	.97	2.60	6
1982	1.35	.39	.98	2.72	6
1981	1.34	.29	1.00	2.63	6
1980	1.34	.28	1.03	2.65	6
1979	1.37	.25	1.03	2.65	6
1978	1.43	.25	1.05	2.74	5
1977	1.45	.24	1.02	2.71	5
Minnesota					
1989	1.28	.27	.89	2.44	5
1988	1.30	.30	.90	2.50	5
1987	1.31	.32	.94	2.57	5
1986	1.30	.33	.93	2.56	5
1985	1.31	.31	1.06	2.68	5
1984	1.34	.28	1.07	2.68	5
1983	1.37	.27	1.10	2.74	5
1982	1.36	.27	1.11	2.75	5
1981	1.39	.27	1.18	2.83	5
1980	1.40	.26	1.20	2.85	5
1979	1.35	.24	1.16	2.75	5
1978	1.31	.23	1.15	2.69	5
1977	1.30	.20	1.15	2.65	5

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Mississippi					
1989	1.26	.09	.65	2.01	9
1988	1.28	.09	.66	2.03	9
1987	1.26	.09	.66	2.01	9
1986	1.26	.10	.69	2.05	9
1985	1.21	.10	.73	2.04	9
1984	1.19	.11	.77	2.06	9
1983	1.19	.11	.79	2.09	9
1982	1.19	.11	.82	2.11	9
1981	1.19	.11	.84	2.14	9
1980	1.13	.10	.86	2.09	9
1979	1.15	.10	.84	2.09	9
1978	1.16	.10	.91	2.18	8
1977	1.08	.11	.86	2.05	9
Missouri					
1989	1.33	.22	.69	2.25	7
1988	1.33	.25	.70	2.28	7
1987	1.36	.27	.72	2.35	7
1986	1.36	.28	.73	2.37	7
1985	1.33	.26	.76	2.36	7
1984	1.34	.25	.68	2.27	8
1983	1.37	.22	.78	2.37	8
1982	1.38	.21	.79	2.38	7
1981	1.40	.21	.83	2.45	7
1980	1.39	.20	.84	2.44	7
1979	1.37	.20	.86	2.43	7
1978	1.31	.20	.89	2.40	7
1977	1.23	.19	.83	2.25	8
Montana					
1989	1.56	.29	.73	2.57	4
1988	1.59	.32	.76	2.66	3
1987	1.57	.33	.77	2.67	4
1986	1.58	.34	.82	2.74	4
1985	1.60	.33	.88	2.81	4
1984	1.70	.32	.93	2.95	3
1983	1.79	.32	.99	3.09	3
1982	1.82	.32	1.02	3.17	3
1981	1.90	.33	1.05	3.28	3
1980	1.82	.35	1.04	3.21	3
1979	1.83	.41	1.05	3.29	3
1978	1.82	.20	1.07	3.10	3
1977	1.83	.20	1.10	3.12	3
Nebraska					
1989	1.37	.19	.63	2.19	7
1988	1.37	.22	.65	2.24	7
1987	1.40	.22	.66	2.28	7
1986	1.38	.23	.68	2.28	7
1985	1.40	.22	.75	2.37	7
1984	1.44	.20	.76	2.41	7
1983	1.49	.21	.79	2.49	7
1982	1.50	.28	.58	2.37	8
1981	1.57	.20	.88	2.66	6
1980	1.56	.19	.89	2.64	6
1979	1.50	.18	.88	2.57	7
1978	1.47	.18	.89	2.54	7
1977	1.45	.17	.91	2.53	6

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Nevada					
1989	2.18	.73	1.93	4.85	1
1988	2.13	.78	2.01	4.93	1
1987	2.05	.84	2.11	5.00	1
1986	2.07	.88	2.12	5.07	1
1985	1.96	.84	2.18	4.99	1
1984	2.01	.82	2.36	5.19	1
1983	1.98	.79	2.45	5.22	1
1982	1.99	.77	2.50	5.25	1
1981	2.08	.80	2.71	5.59	1
1980	2.09	.79	2.94	5.82	1
1979	2.28	.88	3.28	6.44	1
1978	2.20	.85	3.65	6.69	1
1977	2.15	.83	3.85	6.84	1
New Hampshire					
1989	1.87	.50	2.01	4.38	1
1988	1.91	.49	1.95	4.35	1
1987	1.93	.50	1.99	4.42	1
1986	1.93	.52	2.07	4.52	1
1985	1.99	.53	2.21	4.73	1
1984	1.99	.59	2.33	4.91	1
1983	2.17	.56	2.35	5.08	1
1982	1.89	.58	2.34	4.81	1
1981	1.89	.59	2.44	4.92	1
1980	2.21	.69	2.86	5.76	1
1979	1.98	.62	2.61	5.20	1
1978	1.99	.54	2.94	5.46	1
1977	1.89	.50	2.93	5.32	1
New Jersey					
1989	1.13	.50	.96	2.60	3
1988	1.15	.51	.93	2.59	4
1987	1.18	.54	1.01	2.73	4
1986	1.18	.56	1.04	2.78	3
1985	1.18	.55	1.08	2.81	4
1984	1.19	.55	1.10	2.83	4
1983	1.21	.52	1.13	2.86	4
1982	1.22	.52	1.13	2.87	4
1981	1.22	.51	1.15	2.87	5
1980	1.23	.47	1.13	2.83	5
1979	1.18	.43	1.10	2.71	5
1978	1.17	.42	1.10	2.69	5
1977	1.16	.40	1.13	2.69	5
New Mexico					
1989	1.64	.29	.65	2.58	4
1988	1.63	.33	.68	2.64	4
1987	1.63	.35	.67	2.64	4
1986	1.64	.35	.71	2.70	4
1985	1.70	.36	.77	2.83	4
1984	1.71	.28	.76	2.75	5
1983	1.72	.31	.98	3.00	4
1982	1.72	.34	.94	3.00	4
1981	1.74	.32	.95	3.01	4
1980	1.66	.32	1.00	2.99	4
1979	1.71	.30	1.01	3.02	4
1978	1.68	.32	.98	2.99	4
1977	1.65	.32	.96	2.93	4

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
New York					
1989	1.12	.42	.83	2.36	7
1988	1.15	.45	.87	2.47	6
1987	1.15	.48	.91	2.54	5
1986	1.13	.50	.93	2.55	6
1985	1.14	.49	.98	2.62	5
1984	1.15	.49	1.03	2.67	5
1983	1.23	.49	1.05	2.77	5
1982	1.26	.48	1.10	2.84	5
1981	1.25	.46	1.12	2.83	5
1980	1.28	.46	1.18	2.91	5
1979	1.21	.44	1.17	2.82	5
1978	1.18	.42	1.17	2.77	5
1977	1.18	.38	1.17	2.74	5
North Carolina					
1989	1.13	.27	.66	2.07	8
1988	1.12	.28	.69	2.09	8
1987	1.11	.28	.72	2.11	8
1986	1.12	.30	.74	2.16	8
1985	1.09	.27	.76	2.13	8
1984	1.11	.24	.78	2.13	8
1983	1.10	.22	.80	2.12	9
1982	1.07	.21	.85	2.13	9
1981	1.10	.21	.86	2.17	9
1980	1.11	.20	.86	2.17	9
1979	1.08	.22	.88	2.18	9
1978	1.06	.20	.86	2.12	9
1977	1.01	.20	.84	2.05	8
North Dakota					
1989	1.38	.17	.84	2.39	6
1988	1.38	.19	.87	2.44	6
1987	1.34	.20	.88	2.42	6
1986	1.32	.22	.86	2.40	7
1985	1.33	.19	.96	2.48	7
1984	1.40	.17	.98	2.55	6
1983	1.48	.17	1.05	2.71	6
1982	1.52	.18	1.09	2.79	5
1981	1.53	.18	1.14	2.85	5
1980	1.53	.17	1.14	2.83	5
1979	1.45	.16	1.10	2.71	6
1978	1.45	.16	1.15	2.76	5
1977	1.35	.15	1.12	2.62	6
Ohio					
1989	1.35	.22	.51	2.08	8
1988	1.34	.24	.55	2.12	8
1987	1.35	.24	.59	2.18	8
1986	1.32	.25	.61	2.18	8
1985	1.37	.25	.59	2.20	8
1984	1.41	.25	.61	2.26	8
1983	1.36	.22	.65	2.22	8
1982	1.40	.22	.66	2.28	8
1981	1.35	.22	.68	2.25	8
1980	1.39	.22	.72	2.33	8
1979	1.36	.20	.71	2.26	8
1978	1.19	.20	.70	2.09	9
1977	1.17	.18	.70	2.04	9

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Oklahoma					
1989	1.05	.13	.53	1.71	10
1988	1.05	.14	.51	1.69	10
1987	1.04	.15	.57	1.76	10
1986	1.04	.15	.61	1.81	10
1985	1.04	.15	.68	1.87	10
1984	1.01	.16	.74	1.91	9
1983	1.05	.16	.77	1.98	9
1982	1.17	.16	.83	2.17	9
1981	1.14	.16	.83	2.13	9
1980	1.08	.16	.71	1.95	9
1979	1.05	.13	.80	1.98	9
1978	1.08	.14	.82	2.04	9
1977	1.07	.14	.78	1.98	9
Oregon					
1989	1.26	.46	.70	2.42	6
1988	1.27	.51	.71	2.49	5
1987	1.26	.53	.72	2.51	6
1986	1.26	.54	.74	2.54	6
1985	1.25	.55	.77	2.57	6
1984	1.28	.53	.82	2.63	6
1983	1.31	.53	.85	2.69	6
1982	1.33	.53	.88	2.74	6
1981	1.38	.50	.92	2.80	5
1980	1.37	.51	.94	2.82	5
1979	1.39	.47	.96	2.82	5
1978	1.34	.47	.98	2.79	5
1977	1.33	.46	.96	2.74	5
Pennsylvania					
1989	1.36	.18	.56	2.10	7
1988	1.39	.19	.53	2.11	8
1987	1.38	.20	.62	2.20	8
1986	1.38	.21	.64	2.23	8
1985	1.37	.21	.65	2.22	8
1984	1.37	.21	.66	2.25	8
1983	1.41	.22	.67	2.29	8
1982	1.44	.23	.70	2.36	8
1981	1.42	.23	.72	2.37	8
1980	1.45	.22	.71	2.39	8
1979	1.42	.22	.73	2.37	8
1978	1.36	.21	.74	2.32	8
1977	1.35	.20	.74	2.29	8
Rhode Island					
1989	1.37	.46	.87	2.70	3
1988	1.39	.49	.97	2.85	3
1987	1.40	.51	.95	2.86	3
1986	1.41	.53	.94	2.87	3
1985	1.40	.51	1.03	2.94	3
1984	1.37	.52	1.03	2.92	3
1983	1.48	.50	1.06	3.04	3
1982	1.34	.55	1.04	2.93	4
1981	1.36	.52	1.04	2.92	4
1980	1.46	.53	1.14	3.14	3
1979	1.46	.50	1.11	3.07	3
1978	1.41	.50	1.16	3.07	3
1977	1.39	.43	1.12	2.93	4

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
South Carolina					
1989	1.37	.24	.86	2.47	5
1988	1.37	.26	.89	2.52	5
1987	1.34	.27	.89	2.50	6
1986	1.30	.27	.93	2.50	6
1985	1.26	.25	.99	2.49	6
1984	1.26	.24	1.00	2.50	7
1983	1.26	.20	1.01	2.47	7
1982	1.24	.20	1.00	2.44	7
1981	1.25	.19	1.05	2.49	7
1980	1.22	.18	1.06	2.46	7
1979	1.25	.17	1.18	2.60	7
1978	1.20	.17	1.21	2.59	6
1977	1.17	.17	1.14	2.49	7
South Dakota					
1989	1.25	.15	.70	2.10	8
1988	1.21	.16	.77	2.14	8
1987	1.24	.19	.79	2.22	8
1986	1.22	.19	.82	2.24	8
1985	1.22	.18	.94	2.34	8
1984	1.27	.17	.89	2.33	7
1983	1.30	.17	.95	2.43	7
1982	1.29	.18	.98	2.45	7
1981	1.32	.19	1.05	2.56	7
1980	1.30	.18	1.07	2.56	7
1979	1.23	.17	1.04	2.44	7
1978	1.19	.17	1.05	2.42	7
1977	1.15	.17	1.06	2.38	7
Tennessee					
1989	1.18	.14	.59	1.91	9
1988	1.20	.14	.61	1.95	9
1987	1.17	.15	.62	1.94	9
1986	1.17	.16	.63	1.96	9
1985	1.11	.16	.67	1.94	9
1984	1.11	.15	.70	1.95	9
1983	1.10	.14	.69	1.93	10
1982	1.13	.14	.70	1.96	10
1981	1.14	.13	.72	1.98	10
1980	1.10	.12	.69	1.92	9
1979	1.14	.11	.73	1.98	9
1978	1.16	.11	.72	1.99	9
1977	1.10	.10	.71	1.91	10
Texas					
1989	1.62	.26	.58	2.46	5
1988	1.61	.28	.59	2.47	6
1987	1.61	.29	.61	2.52	5
1986	1.67	.31	.66	2.63	5
1985	1.68	.30	.73	2.70	5
1984	1.74	.28	.79	2.82	4
1983	1.73	.27	.79	2.79	5
1982	1.83	.18	.84	2.85	4
1981	1.84	.24	.85	2.93	4
1980	1.77	.22	.81	2.80	5
1979	1.76	.14	.87	2.77	5
1978	1.70	.14	.84	2.68	6
1977	1.63	.14	.81	2.58	6

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Utah					
1989	.82	.13	.47	1.43	10
1988	.83	.14	.49	1.46	10
1987	.84	.15	.50	1.49	10
1986	.89	.17	.53	1.58	10
1985	.90	.15	.53	1.58	10
1984	.88	.14	.52	1.53	10
1983	.88	.14	.50	1.52	10
1982	1.01	.15	.55	1.71	10
1981	1.01	.14	.58	1.74	10
1980	.96	.14	.60	1.71	10
1979	.97	.16	.62	1.75	10
1978	.96	.15	.61	1.72	10
1977	.97	.14	.59	1.70	10
Vermont					
1989	1.45	.51	.88	2.85	2
1988	1.51	.56	.94	3.00	2
1987	1.56	.58	.99	3.13	1
1986	1.55	.59	1.05	3.18	1
1985	1.49	.55	1.09	3.13	2
1984	1.48	.49	1.15	3.12	2
1983	1.52	.50	1.19	3.21	2
1982	1.49	.50	1.25	3.24	2
1981	1.49	.50	1.33	3.32	2
1980	1.43	.48	1.39	3.30	2
1979	1.57	.47	1.50	3.54	1
1978	1.53	.47	1.59	3.59	1
1977	1.42	.44	1.58	3.44	1
Virginia					
1989	1.23	.31	.65	2.19	7
1988	1.31	.25	.68	2.25	7
1987	1.40	.26	.71	2.37	7
1986	1.52	.27	.74	2.53	6
1985	1.46	.30	.79	2.55	6
1984	1.46	.29	.80	2.55	6
1983	1.47	.27	.82	2.57	6
1982	1.45	.27	.86	2.59	6
1981	1.23	.27	.89	2.39	7
1980	1.23	.25	.90	2.39	7
1979	1.23	.25	.92	2.40	8
1978	1.22	.21	.90	2.33	8
1977	1.19	.21	.90	2.30	7
Washington					
1989	1.24	.47	.76	2.46	5
1988	1.22	.50	.77	2.50	5
1987	1.23	.56	.80	2.59	4
1986	1.23	.61	.82	2.66	4
1985	1.22	.59	.87	2.68	5
1984	1.24	.57	.91	2.71	5
1983	1.29	.54	.94	2.76	5
1982	1.33	.53	.99	2.85	4
1981	1.38	.54	1.05	2.97	4
1980	1.52	.52	1.08	3.12	3
1979	1.41	.48	1.10	2.99	4
1978	1.39	.48	1.09	2.96	4
1977	1.36	.45	1.07	2.89	4

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
West Virginia					
1989	1.12	.11	.38	1.60	10
1988	1.12	.12	.41	1.64	10
1987	1.11	.13	.41	1.65	10
1986	1.10	.13	.42	1.84	10
1985	1.11	.13	.42	1.66	10
1984	1.12	.12	.44	1.68	10
1983	1.13	.13	.48	1.74	10
1982	1.11	.14	.55	1.80	10
1981	1.06	.14	.66	1.85	10
1980	1.00	.09	.72	1.82	10
1979	.97	.09	.77	1.83	10
1978	.96	.09	.79	1.84	10
1977	.98	.09	.78	1.85	10
Wisconsin					
1989	1.71	.31	.95	2.97	1
1988	1.75	.33	.95	3.03	1
1987	1.78	.36	.98	3.12	1
1986	1.87	.34	.96	3.16	2
1985	1.82	.32	1.05	3.19	1
1984	1.86	.30	1.03	3.19	2
1983	1.93	.33	1.07	3.33	1
1982	1.93	.30	1.04	3.27	2
1981	1.95	.31	1.20	3.47	1
1980	1.96	.31	1.20	3.46	1
1979	1.88	.28	1.17	3.33	3
1978	1.80	.28	1.18	3.25	2
1977	1.78	.27	1.26	3.31	2
Wyoming					
1989	1.35	.22	.82	2.39	6
1988	1.39	.23	.84	2.46	6
1987	1.46	.24	.87	2.57	5
1986	1.46	.26	.93	2.64	5
1985	1.56	.25	1.03	2.84	3
1984	1.58	.22	1.05	2.86	4
1983	1.66	.22	1.09	2.98	4
1982	1.80	.24	1.21	3.25	2
1981	1.91	.24	1.27	3.42	2
1980	1.85	.24	1.32	3.42	2
1979	1.86	.22	1.30	3.38	2
1978	1.82	.22	1.36	3.41	2
1977	1.79	.21	1.32	3.31	1
Northeast Region					
1989	1.22	.39	.85	2.45	
1988	1.25	.40	.87	2.52	
1987	1.25	.43	.92	2.60	
1986	1.25	.44	.94	2.63	
1985	1.25	.43	.98	2.66	
1984	1.25	.43	1.01	2.70	
1983	1.31	.43	1.03	2.76	
1982	1.31	.43	1.05	2.79	
1981	1.31	.41	1.07	2.80	
1980	1.34	.40	1.10	2.84	
1979	1.30	.38	1.09	2.77	
1978	1.26	.36	1.10	2.73	
1977	1.25	.34	1.10	2.69	

See footnote at end of table.

Table 3 (continued)

Per Capita Ethanol Consumption for States, Census Regions and U.S., 1977-89
[Gallons of ethanol, based on population age 14 and older.]

State or Other Geographic Area	Per Capita Consumption				U.S. Decile for All Beverages
	Beer	Wine	Spirits	All Beverages	
Midwest Region					
1989	1.34	.26	.72	2.32	
1988	1.36	.28	.74	2.38	
1987	1.37	.29	.77	2.43	
1986	1.37	.30	.78	2.44	
1985	1.37	.28	.83	2.48	
1984	1.39	.27	.84	2.50	
1983	1.41	.25	.87	2.53	
1982	1.42	.27	.88	2.56	
1981	1.42	.26	.93	2.61	
1980	1.42	.24	.96	2.63	
1979	1.41	.23	.95	2.58	
1978	1.35	.22	.96	2.53	
1977	1.32	.21	.96	2.49	
South Region					
1989	1.33	.26	.74	2.32	
1988	1.33	.27	.75	2.35	
1987	1.33	.27	.78	2.38	
1986	1.35	.28	.79	2.42	
1985	1.33	.27	.85	2.46	
1984	1.34	.27	.90	2.51	
1983	1.36	.25	.91	2.52	
1982	1.37	.23	.95	2.55	
1981	1.36	.24	.98	2.58	
1980	1.31	.23	.98	2.51	
1979	1.32	.21	1.03	2.55	
1978	1.29	.20	1.03	2.52	
1977	1.25	.19	1.01	2.44	
West Region					
1989	1.36	.51	.85	2.72	
1988	1.37	.57	.87	2.81	
1987	1.39	.62	.90	2.91	
1986	1.40	.65	.93	2.98	
1985	1.37	.65	1.00	3.02	
1984	1.41	.61	1.04	3.05	
1983	1.42	.61	1.07	3.10	
1982	1.45	.60	1.11	3.15	
1981	1.49	.60	1.16	3.26	
1980	1.48	.59	1.20	3.26	
1979	1.49	.58	1.24	3.31	
1978	1.43	.56	1.27	3.26	
1977	1.38	.54	1.22	3.15	
U.S. Total					
1989	1.31	.34	.78	2.43	
1988	1.33	.36	.80	2.49	
1987	1.34	.38	.83	2.54	
1986	1.34	.39	.85	2.58	
1985	1.33	.38	.90	2.62	
1984	1.35	.37	.94	2.65	
1983	1.37	.36	.96	2.69	
1982	1.38	.36	.98	2.72	
1981	1.39	.35	1.02	2.76	
1980	1.38	.34	1.04	2.76	
1979	1.37	.32	1.06	2.75	
1978	1.32	.31	1.07	2.71	
1977	1.29	.29	1.06	2.64	

Decile values apply only to state-level data. Numbers may not sum due to rounding.

Table 4

Adjusted Per Capita Ethanol Consumption for Selected States, 1986-1989

[Based on estimates of abstention among population age 18 and older from the Behavioral Risk Factors Survey, Centers for Disease Control]

State	Unadjusted Per Capita Consumption	Percentage of Abstainers for State	Adjusted Per Capita Consumption
Alabama			
1989	1.87	69.4	6.12
1988	1.90	64.0	5.28
1987	1.89	60.1	4.74
1986	1.91	61.8	5.00
Alaska			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
Arizona			
1989	2.89	43.2	5.09
1988	2.95	41.6	5.05
1987	2.99	40.6	5.04
1986	3.15	39.5	5.21
Arkansas			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
California			
1989	2.79	42.3	4.84
1988	2.91	37.4	4.65
1987	3.04	34.9	4.67
1986	3.12	34.4	4.75
Colorado			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
Connecticut			
1989	2.55	31.5	3.73
1988	2.72	30.8	3.93
1987	•	•	•
1986	•	•	•
Delaware			
1988	•	•	•
1987	•	•	•
1986	•	•	•
District of Columbia			
1989	4.23	61.3	10.93
1988	4.50	60.6	11.43
1987	4.87	53.6	10.49
1986	4.77	44.1	8.53

See footnote at end of table.

Table 4 (continued)

Adjusted Per Capita Ethanol Consumption for Selected States, 1986-1989
[Based on estimates of abstention among population age 18 and older from the Behavioral Risk Factors Survey, Centers for Disease Control]

State	Unadjusted Per Capita Consumption	Percentage of Abstainers for State	Adjusted Per Capita Consumption
Florida			
1989	2.91	45.5	5.33
1988	2.92	42.5	5.08
1987	2.96	41.2	5.03
1986	2.97	39.8	4.93
Georgia			
1989	2.38	61.9	6.24
1988	2.41	43.7	4.28
1987	2.50	57.4	5.87
1986	2.44	56.0	5.54
Hawaii			
1989	2.76	47.1	5.23
1988	2.87	45.8	5.29
1987	2.74	41.0	4.65
1986	2.89	41.6	4.95
Idaho			
1989	2.10	52.6	4.43
1988	2.19	52.1	4.57
1987	2.27	46.8	4.26
1986	2.33	46.4	4.34
Illinois			
1989	2.57	46.3	4.78
1988	2.65	40.5	4.46
1987	2.67	40.1	4.45
1986	2.68	44.5	4.83
Indiana			
1989	2.04	53.5	4.40
1988	2.11	48.3	4.08
1987	2.13	49.2	4.20
1986	2.15	46.9	4.05
Iowa			
1989	1.94	46.0	3.60
1988	2.00	46.1	3.71
1987	•	•	•
1986	•	•	•
Kansas			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
Kentucky			
1989	1.76	65.4	5.10
1988	1.80	62.8	4.84
1987	1.77	63.5	4.83
1986	1.85	59.3	4.54

See footnote at end of table.

Table 4 (continued)

Adjusted Per Capita Ethanol Consumption for Selected States, 1986-1989

[Based on estimates of abstention among population age 18 and older from the Behavioral Risk Factors Survey, Centers for Disease Control]

State	Unadjusted Per Capita Consumption	Percentage of Abstainers for State	Adjusted Per Capita Consumption
Louisiana			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
Maine			
1989	2.45	50.2	4.92
1988	2.55	45.3	4.66
1987	2.55	44.5	4.60
1986	•	•	•
Maryland			
1989	2.55	46.0	4.72
1988	2.63	44.5	4.74
1987	2.74	39.0	4.50
1986	•	•	•
Massachusetts			
1989	2.76	32.1	4.06
1988	2.87	35.9	4.48
1987	2.93	31.0	4.25
1986	2.97	27.5	4.10
Michigan			
1989	2.39	44.8	4.33
1988	2.47	38.6	4.02
1987	•	•	•
1986	•	•	•
Minnesota			
1989	2.44	38.4	3.95
1988	2.50	34.6	3.82
1987	2.57	32.8	3.82
1986	2.56	31.0	3.71
Mississippi			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
Missouri			
1989	2.25	53.2	4.80
1988	2.28	51.1	4.66
1987	2.35	45.6	4.34
1986	2.37	47.0	4.47
Montana			
1989	2.57	41.9	4.43
1988	2.66	39.4	4.39
1987	2.67	38.6	4.35
1986	2.74	34.6	4.19

See footnote at end of table.

Table 4 (continued)

Adjusted Per Capita Ethanol Consumption for Selected States, 1986-1989
[Based on estimates of abstention among population age 18 and older from the Behavioral Risk Factors Survey, Centers for Disease Control]

State	Unadjusted Per Capita Consumption	Percentage of Abstainers for State	Adjusted Per Capita Consumption
Nebraska			
1989	2.19	48.4	4.24
1988	2.24	49.0	4.39
1987	2.28	41.9	3.92
1986	•	•	•
Nevada			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
New Hampshire			
1989	4.38	32.1	6.45
1988	4.35	31.9	6.39
1987	4.42	27.8	6.12
1986	•	•	•
New Jersey			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
New Mexico			
1989	2.58	47.5	4.91
1988	2.64	48.2	5.09
1987	2.64	61.2	6.82
1986	2.70	49.2	5.31
New York			
1989	2.36	51.5	4.87
1988	2.47	45.8	4.56
1987	2.54	45.3	4.64
1986	2.55	39.2	4.20
North Carolina			
1989	2.07	62.0	5.44
1988	2.09	60.1	5.23
1987	2.11	59.2	5.16
1986	2.16	57.8	5.12
North Dakota			
1989	2.39	41.8	4.11
1988	2.44	38.2	3.95
1987	2.42	38.1	3.90
1986	2.40	38.3	3.89
Ohio			
1989	2.08	49.9	4.15
1988	2.12	48.5	4.12
1987	2.18	44.2	3.90
1986	2.18	41.8	3.75

See footnote at end of table.

Table 4 (continued)

Adjusted Per Capita Ethanol Consumption for Selected States, 1986-1989

[Based on estimates of abstention among population age 18 and older from the Behavioral Risk Factors Survey, Centers for Disease Control]

State	Unadjusted Per Capita Consumption	Percentage of Abstainers for State	Adjusted Per Capita Consumption
Oklahoma			
1989	1.71	63.6	4.69
1988	1.69	58.2	4.04
1987	•	•	•
1986	•	•	•
Oregon			
1989	2.42	44.6	4.37
1988	•	•	•
1987	•	•	•
1986	•	•	•
Pennsylvania			
1989	2.10	44.2	3.76
1988	•	•	•
1987	•	•	•
1986	•	•	•
Rhode Island			
1989	2.70	40.3	4.52
1988	2.85	49.6	5.65
1987	2.86	49.2	5.62
1986	2.87	38.0	4.63
South Carolina			
1989	2.47	61.4	6.40
1988	2.52	64.6	7.12
1987	2.50	57.1	5.82
1986	2.50	57.5	5.88
South Dakota			
1989	2.10	43.6	3.71
1988	2.14	40.5	3.60
1987	2.22	40.9	3.76
1986	•	•	•
Tennessee			
1989	1.91	68.9	6.14
1988	1.95	65.6	5.67
1987	1.94	63.9	5.35
1986	1.96	61.4	5.08
Texas			
1989	2.46	48.1	4.75
1988	2.47	47.5	4.70
1987	2.52	41.6	4.31
1986	•	•	•
Utah			
1989	1.43	68.8	4.58
1988	1.46	70.2	4.91
1987	1.49	66.7	4.49
1986	1.58	62.0	4.16

See footnote at end of table.

Table 4 (continued)

Adjusted Per Capita Ethanol Consumption for Selected States, 1986-1989
[Based on estimates of abstention among population age 18 and older from the Behavioral Risk Factors Survey, Centers for Disease Control]

State	Unadjusted Per Capita Consumption	Percentage of Abstainers for State	Adjusted Per Capita Consumption
Vermont			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•
Virginia			
1989	2.19	46.4	4.08
1988	•	•	•
1987	•	•	•
1986	•	•	•
Washington			
1989	2.46	41.8	4.23
1988	2.50	36.4	3.93
1987	2.59	36.4	4.07
1986	•	•	•
West Virginia			
1989	1.60	69.7	5.29
1988	1.64	67.6	5.06
1987	1.65	64.6	4.65
1986	1.64	65.1	4.70
Wisconsin			
1989	2.97	30.1	4.24
1988	3.03	29.1	4.27
1987	3.12	29.8	4.44
1986	3.16	25.9	4.26
Wyoming			
1989	•	•	•
1988	•	•	•
1987	•	•	•
1986	•	•	•

• State did not participate in the Behavioral Risk Factors Survey that year.