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Trends in Forest-Based Recreation: Reports for the 2010 Montreal Process Indicators for the U.S.

A RECREATION Research Report in the IRIS Series[1]

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H. Ken Cordell
Carter J. Betz, Brett J. Butler, and John C. Bergstrom[2]

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http://warnell.forestry.uga.edu/nrrt/nsre/IrisReports.html

[2] The authors are H. Ken Cordell, Pioneering Scientist, and Carter J. Betz, Outdoor Recreation Planner, USDA Forest Service, Athens, GA; Brett J. Butler, Research Forester, USDA Forest Service, Amherst, MA; and John C. Bergstrom, Professor, University of Georgia, Athens, GA.

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Indicator 41: Area and percent of forests available and/or managed for public recreation and tourism

What is the indicator and why is it important?

This indicator measures the extent to which forests are managed to provide opportunities for recreation and tourism as a specific objective in forest management plans of public agencies and private landowners. As the economic well-being of a country increases, transportation infrastructure is improved, and disposable income grows, public use of forests for recreation grows. These activities are increasingly important as a source of forest-based employment and income. Engaging in outdoor recreation and tourism in forests tends to build support among participants for protecting and managing those forests, indirectly building support for sustainable forests.

What does the Indicator show?

Forest area in the United States is just over 751 million acres, about one-third of the total U.S. land area (Smith, USDA Forest Service, 2008). For the last 100 years, the total of forest land area has been relatively constant. Almost 44 percent of the current U.S. forest land area is publicly owned; one third of this U.S. total is federally owned (Figure 41-1). Over 18 percent is private corporation owned, and almost 38 percent is non-corporate privately owned. Of this non-corporate private forest land, over 92 percent is family or individually owned. With negligible exceptions, even including federal experimental forests, government forest lands at all levels are open to someone for some form of outdoor recreation. However, given that an inventory of forest tracts by management objectives is not available for the U.S., it is not possible for the most part to ascertain the degree to which forests under different ownerships are managed specifically for recreation and tourism.

Government, corporation, and organization-owned forest lands. Open federal forest lands include forests on national forests, national parks, Bureau of Land Management lands, wildlife refuges, and any other federally managed public land. State forest lands include state forests, state parks, and other state management areas. Local forests include municipal watersheds, local parks, local forest preserves, greenways, and other local government forests. Private forest lands include corporation owned forest-industry lands, other corporation forest lands, individual and family lands, and other non-corporation private lands. Like public lands, it is assumed for this indicator report that forest industry, other corporate, and other non-corporate lands are open to some forms of recreational uses, although access to them is most likely restricted. For corporation lands, data are not available for estimating the acreages generally open to anyone versus acreages restricted for use by employees, executives, lessees, or exclusively to others. Over half of the forest industry forests are in the South. Large portions of corporation lands not owned by forest industry are located in the Pacific Coast and South regions. Other non-corporate private forest lands (not including family and individual ownerships) lie mostly in the North and Rocky Mountain regions.

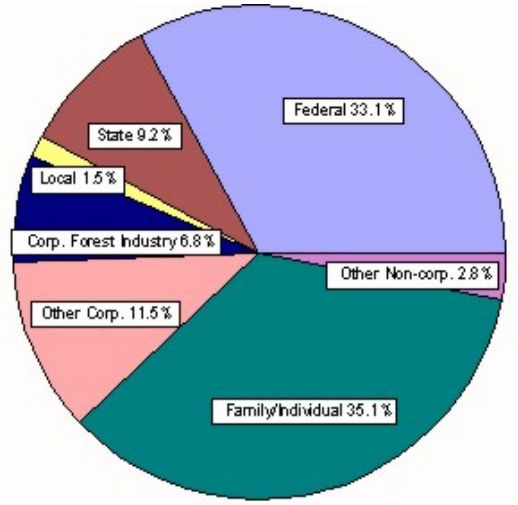


Figure 41-1—Percent of forest land in the United States by ownership category, nationally, 2007 (1,000s of acres, Percentages sum to 100.). (All lands are open for some form of recreation, although who may have access may be restricted.) Source: Smith, W. Brad, et al. Forest Resources of the United States. In Press. Washington, DC: USDA Forest Service, 2008, Table 2.

Family and individual forest lands. Almost half of the family and individually owned private forest land is in the South region, nearly 36 percent is in the North region, and much smaller percentages are in the Rocky Mountain and Pacific Coast regions. Figure 41-2 shows the percentages of family and individually-owned forest land nationally. Over 42 percent of this forest land is posted to limit access. Posting does not mean not used for recreation, it means access is restricted. The percentage of land posted is highest in the Pacific Coast and lowest in the North regions. The National Woodland Ownership Survey estimated that about 54 percent of family forest land was open only to family or friends, and no others. Just 14.6 percent of the family forest area was open to the public with permission of the owner. Almost 8 percent of the family forest area was leased in the last 5 years for recreational uses. Percentages open to the public were highest in the North and Rocky Mountain regions. Leasing was greatest in the Rocky Mountains.

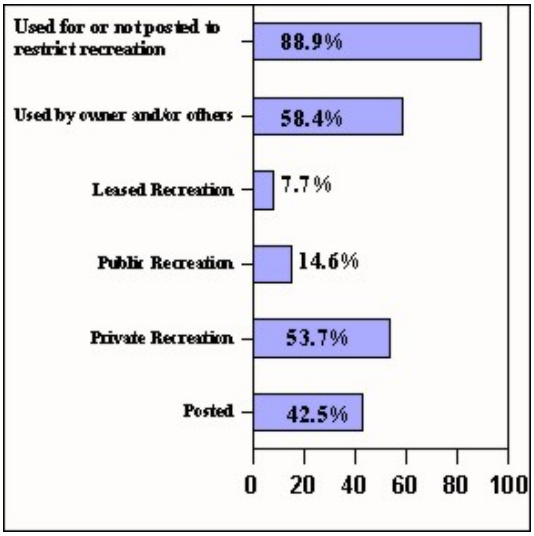


Figure 41-2—Percentage of family or individually owned forest land area posted, used only by owners and associates, used by the public, leased, total used by anyone, and total used or not posted to restrict recreation, 2006 (area in 1,000s). Source: Butler, Brett J. 2008. Family forest owners of the United States, 2006. Gen. Tech. Rep. NRS-27. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station 73 p.

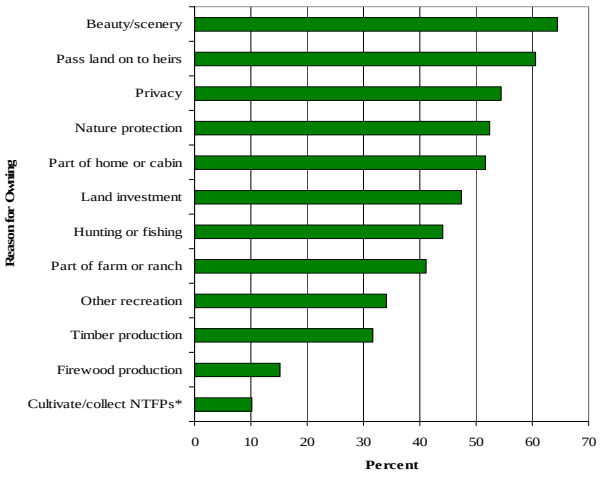


Figure 41-3— Percent of family forest land area in the United States by reasons for owning, 2006. Source: Butler 2008. Includes owners who rated the specific objective as very important (rating = 1) or important (rating = 2) on a seven point Likert scale with one defined as very important and seven as not important.

Figure 41-3 shows area of family forest land by reasons for owning in 2006. Beauty appreciation is at the top, followed by passing the land to heirs, gaining privacy, protection of nature, and having it as part of a home or cabin site. Smaller acreages were considered important because of hunting, fishing, or other recreation activities.

Differences across regions. All of the 751 million acres of forest land in the United States is open to someone for some form(s) of recreation. Almost 29 percent of this forest land is in the South, and just over 28 percent is in the Pacific Coast region, which includes Alaska. Almost 23 percent is in the North, followed by the Rocky Mountain region with 20 percent. Most of the public forest land (especially federal forests) is in the western two regions. Public lands in the West are essentially open to anyone for recreation, except for certain military or laboratory sites.

Most of the private land is in the eastern states (North and South regions). Recreation use is more restricted on private lands than on public lands. The South has by far the greatest area of family or individually owned forest land in the U.S., followed in order by the North, the Rocky Mountains and Pacific Coast regions. The North, however, has the greatest area of family forest land open to the general public, 17.2 million acres, 18.3 percent of the region's total. Next is the South with 12.2 million acres, 9.9 percent of the region's total family forest land. The South has the greatest area of family forest leased for recreation, 12.4 million acres, 9.7 percent. This is followed by the Rocky Mountains at 4.1 million acres, 16.9 percent of family forest in that region.

What has changed since 2003?

Total area of public forest land at all levels of government has increased slightly. Thus the trend for public land available for recreation is up slightly. Percentages of non-industrial land available to the public at large, however, are modest and have been trending downward over the last several decades. In 1985-86, nearly 25 percent of owners permitted some public access. This percentage dropped by 1995 to nearly 14.5 percent (Cordell 1999). In 2000-01, it was estimated that only 10.9 percent of owners permitted access to the general public. Lowest percentage was in the West at 8 percent and highest was in the North at 13 percent. Based on the National Woodland Ownership Survey, it was estimated that 14.6 percent of family forest area is open to the public. This estimate closely resembles those earlier reported, although the source is different and not directly comparable.

Indicator 42 - Number, type, and geographic distribution of visits attributed to recreation and tourism, and related to facilities available.

What is the Indicator and why is it important?

This indicator provides a measure of recreation and tourism use of forests. These activities are increasingly important as a source of forest-based employment and income. Engaging in outdoor recreation and tourism in forests tends to build support among participants for protecting and managing those forests, indirectly building support for sustainable forests. This indicator focuses on forest recreation visits, facilities, and capacities.

What does the Indicator show?

Number of recreation visits to forests for selected recreation activities.

The top 10 forest recreation activities in terms of numbers of visits are walking for pleasure; viewing and photographing natural scenery; viewing and photographing flowers, trees and other forest vegetation; viewing and photographing birds; viewing and photographing wildlife; day hiking; visiting wild areas; off-highway driving; family gatherings; and visiting nature centers (Table 42-1). The numbers of annual forest recreation activity days among these activities (roughly equivalent to visits) range from a high of almost 7.5 billion to just over 680 million. Snowmobiling, mountain climbing, cross country skiing, rock climbing and snowshoeing engage much smaller numbers of recreation activity days, but still they add up to sizeable numbers of visits (ranging between about 20 to 62 million). Obviously, Americans are strongly interested in viewing and photographing forest natural life.

Over all activities listed in Table 42-1, the percentage of forest-based activity days that occur on *public lands* ranges from under 50 percent (for example, small-game hunting, horseback riding, off-road driving, and gathering mushrooms and berries) to over 75 percent (for example, visiting wilderness, day hiking, visiting nature centers, and backpacking). Over all activities, the percentage of forest-based recreation activity days that occur in *urban forests* ranges between roughly 15 percent to around 45 percent. Lowest percentages in urban forests are activities such as hunting, camping, and backpacking. Highest percentages in urban forests include activities such as walking, picnicking, family gatherings, and visiting nature centers. Public lands and urban forests clearly play significant roles in providing opportunities for outdoor recreation.

Table 42-1—Millions of annual forest recreation activity days by activity, and percentages on public forest lands and in urban forests, 2007-2008.

Forest Recreation Activity	Number of Activity Days	% on Public Forest	% in Urban Forests
Walk for pleasure	7,493.303	53.8	44.5
View/photograph natural scenery	6,170.597	61.9	31.8
View/photograph wildflowers, trees, etc.	4,858.941	55.4	36.3
View/photograph birds	3,738.274	51.3	37.6
View/photograph other wildlife	3,086.848	57.7	32.2
Day hiking	1,234.823	76.2	34.0
Visit a wilderness or primitive area	947.559	76.4	24.6
Off-highway driving	837.541	50.4	23.2
Family gathering	805.291	55.9	43.5
Visit nature centers, etc.	683.850	77.6	45.2
Gather mushrooms, berries, etc.	623.372	47.9	32.3
Mountain biking	463.324	60.2	32.1
Picnicking	455.942	68.4	44.4
Developed camping	355.966	72.8	21.3
Big game hunting	279.781	45.7	16.5
Primitive camping	211.448	75.8	21.4
Backpacking	198.787	78.5	22.1
Visit historic Sites	182.755	60.0	39.1
Horseback riding on trails	177.453	50.8	34.4
Small Game hunting	161.488	46.8	17.4
Visit prehistoric/ archeological sites	138.932	70.0	41.6
Snowmobiling	62.111	55.1	27.4
Mountain climbing	57.091	78.6	20.5
Cross country skiing	41.874	60.5	33.7
Rock climbing	34.088	68.8	26.9
Snowshoeing	19.938	60.2	27.6

Source: NSRE 2005-2008, Versions 1-3b.

Number and capacity of recreation facilities in forests for selected types of recreation activities.

Across the nation, there are over 6,000 federal campgrounds; most are in the west, including the Rocky Mountains/Great Plains and Pacific Coast, where abundant federal lands exist. Private sector businesses in the U.S. analyzed for this indicator include RV parks **ncither** and campgrounds, snow skiing areas, marinas, historic sites, nature parks and similar sites, and sightseeing and related tourism transportation services.

In 2005 there were an estimated 1,586 privately operated forest-based RV parks and campgrounds, almost half of

which were in the North and just over 25 percent in the South. There were just over 180 forest-based, privately-run snow skiing facilities in 2005, mainly downhill ski slopes. The large majority of these skiing facilities were in the North region, over 70 percent. Privately operated historic sites in forested areas were estimated at about 330, almost all of which, 89 percent, are in the East. Estimated number of private, forest-based nature parks and similar sites in the U.S. was about 200 nationally, of which about 77 percent are in the East, mostly in the **77 percent lllllt**northeast portion of this region. There were nearly 160 private forest-based scenic and sightseeing transportation businesses, mostly in the East.

Figure 42-1 shows the county-level distribution of federal forest campground capacity per 100,000 county population relative to the location of major cities. The greatest amount of federal forest campground capacity is in the Southern Appalachians, the Ozarks, the Great Lakes area, the Southern Rockies, California, and the Pacific Northwest. Figure 42-2 shows the distribution of capacities summed across a variety of private, forest-based recreation and tourism businesses. Greatest concentrations are in the New England states, the Great Lakes area, the Pacific Northwest, California, and the southern Rocky Mountain region. Private facilities, sites, and services are also scattered throughout the South, the Ozarks area, and the Mid-Atlantic region including Virginia, West Virginia and Maryland. Many of these businesses are located near federal and state public lands. Highly significant amounts of the private forest recreation capacity mapped lies within a 2-hour drive of U.S. population centers of 1,000,000 or more (shown as red dots size scaled).

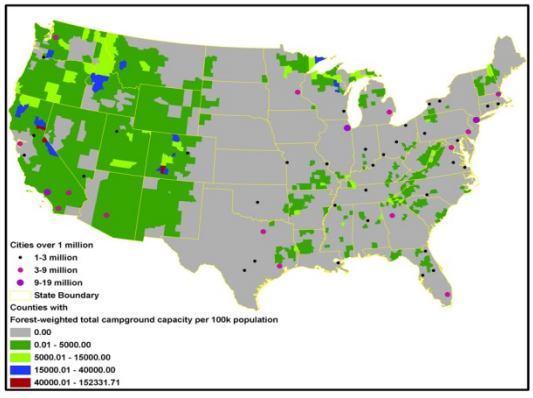


Figure 42-1—Location of forest-based federal campground capacity per 100 thousand population. Source: The primary source is the U.S. Census Bureau, County Business Patterns, 2001 and 2005.

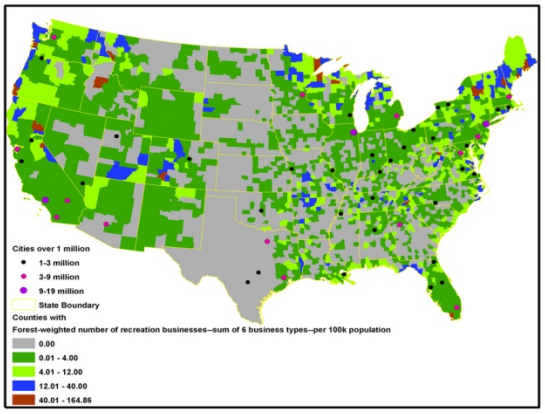


Figure 42-2—Location of cities and forest-based recreation businesses (5 types) per 100,000 population.

What has changed since 2003?

Overall, between 2000 and 2007, the trend has been increased participation in outdoor recreation activities. As reported in *Forest History Today* (Cordell 2008), the total number of people who participated in one or more outdoor activities grew by 4.4 percent between 2000 and 2007 (see Figure 42-3). At the same time, the number of recreation activity days, summed across all participants and activities, increased approximately 25 percent. Number and capacity of public and private forest-based recreation sites and capacities have remained about constant or increased slightly.

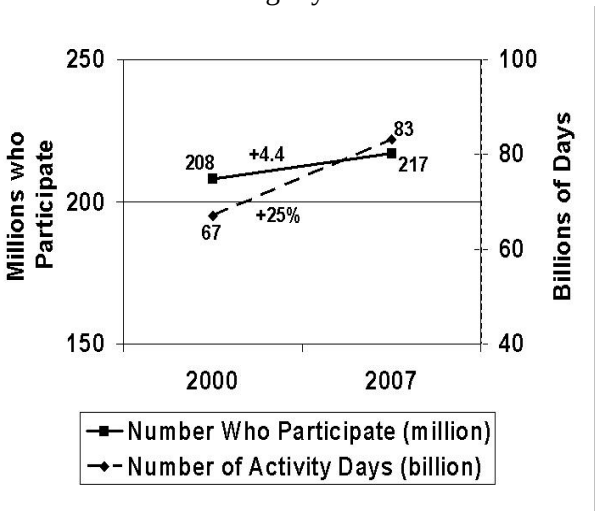


Figure 42-3.—Growth in number of people and number of recreation activity days in 60 outdoor recreation activities in the United States, 2000–2007 (reproduced from Forest History Today article, Cordell, 2008).

Indicator 43 - Area and percent of forests managed primarily to protect the range of cultural, social, and spiritual needs and values

What is the indicator and why is it important?

This indicator measures the area of forest land managed primarily to protect cultural, social, and spiritual values. These values are important dimensions of social well-being for people concerned about forests—whether they live in or near forests or great distances from them. Where people with unique needs for cultural, social, or spiritual values are only able to meet their needs in unique places; this places a premium on the protection and management of those locations.

What does the Indicator show?

Highest among reasons Americans favor protecting wild forest areas, in all regions of the country, are for protection of air quality, water quality, and wildlife habitat; for use by future generations; for protection of unique plants and animals, and for protection of rare and endangered species. People living in different regions of the country differ very little in what they value about protected wilderness and other public lands (Cordell, 2008--http://warnell.forestry.uga.edu/nrrt/nsre/IRISWild/IrisWild1rpt.pdf).

Protected public forests.

Protected government-owned forest land in the U.S. is shown in Table 43-1. An estimated 328 million acres of forest is protected through federal, state or local government ownership. Of all forest land area in the U.S., almost 44 percent is protected by government ownership. The World Commission on Protected Areas (WCPA) employs a classification system to categorize protected natural areas. Using this system, categories of protected public forests in the U.S. are described. WCPA Category 1a (science natural areas) is represented by experimental forests across the country (Table 43-1). There are a total of over 940 thousand acres of public forest designated as experimental forests in the U.S. Over 58 percent of the total experimental forest area is in the Pacific Coast region; about one-fourth is in the Rocky Mountain region. Experimental forests represent about 0.1 percent of the United States' total forest area. Table 43-1 also shows acreages of public forest land in WPCA Categories Ib through VI. Just over 20 percent of public forest is protected as wilderness (National Wilderness Preservation System, Category 1b), just under 7 percent, is in national parks (Category II), and 0.4 percent of public forest area is designated as natural monuments. Thirteen percent of government-owned forest is in WPCA Category IV, mainly wildlife refuges; and 0.2 percent is within the boundaries of protected national lakeshores and seashores. The largest category of government protected forest (Category VI) includes managed lands such as national forests, Bureau of Land Management lands, and other state and local government lands. This category makes up almost 60 percent of total U.S. protected public forest lands. The region with the greatest acreage of government owned forest is the Pacific Coast region, which runs from California to Alaska, and includes Hawaii. Next highest is the Rocky Mountain region.

Table 43-1.--Acres (in 1,000s) and percent of public forest land by region and by category of protection using the World Commission on Protected Area classification system. (Percentages sum down to 100, except in last column. Percentages in the last column are of all U.S. forest land, 751.2 million acres.)

WCPA category	North	South	Rocky Mtns	Pacific Coast	U.S. Total	Pct of all U.S. forest
Ia: Strict Nature Reserves	86.5 (0.2%)	71.2 (0.2%)	233.8 (0.2%)	548.7 (0.4%)	940.2 (0.3%)	0.1
Ib: Wilder-ness	1,559.1 (3.5%)	2,384.9 (8.3%)	21,338.7 (18.9%)	40,853.1 (28.6%)	66,135.9 (20.2%)	8.8
II: National Parks	951.9 (2.2%)	2,941.5 (10.3%)	7,836.1 (6.9%)	10,124.5 (7.1%)	21,854 (6.7%)	2.9
III: Natural Monu-ments	3.7 (0%)	28.7 (0.1%)	865.2 (0.8%)	423.0 (0.3%)	1,320.7 (0.4%)	0.2
IV: Habitat/ Species Mgmt Areas	1,563.8 (3.6%)	3,440.9 (12%)	7,226.7 (6.4%)	31,083.0 (21.8%)	43,314.4 (13.2%)	5.8
V: Protected Land-scape/ Seascapes	179.9 (0.4%)	332.9 (1.2%)	0 (0%)	33.8 (0%)	546.6 (0.2%)	0.1
VI: Managed Protected Areas	39,633.5 (90.1%)	19,479.2 (67.9%)	75,254.8 (66.7%)	59,719.7 (41.8%)	194,087.2 (59.1%)	25.8
All public forest	43,978.5	28,679.4	112,755.4	142,785.8	328,199.0	43.7

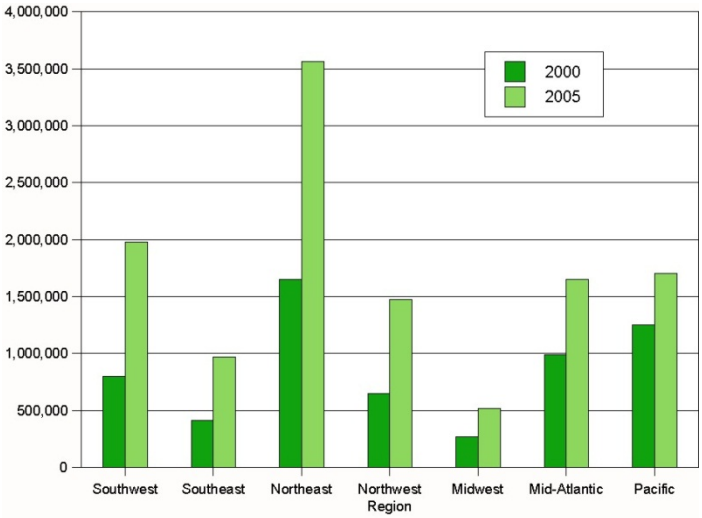
Sources include responsible government agencies, Wilderness.net, and Brad Smith. Forest Resources of the U.S., 2007. Washington, DC: USDA. Forest Service. 2008.

Protected private forests.

Conservation of private land through land trusts has been increasing over the last few years (Figure 43-1 shows the increase in state and local trusts). The National Land Trust Census Report (Aldrich and Wyerman 2005) indicated that total acreage conserved through private means in 2005 was 37 million acres, representing a 54 percent increase since 2000. This includes land protected by local and state land trusts, *and* land protected by large national land conservation groups. Examples of large national groups include The Nature Conservancy, Ducks Unlimited, The Conservation Fund, and The Trust for Public Land.

A land trust is a nonprofit organization that actively works to conserve land through conservation easements, direct fee simple acquisitions or by stewardship of easements. The Land Trust Alliance of the U.S. has been organized to unite organizations in local communities for natural area conservation (www.landtrustalliance.org). Internationally, organizations such as the World Commission on Protected Areas works within the framework of the United Nations to track and stimulate countries around the globe to designate forests and other lands as protected areas.

Figure 43-1.—Private land protected by local and state land trusts in the United States, 2000 – 2005



Source: National Land Trust Census Report for 2005.

The Forest Legacy Program (FLP) is a federal program managed by the U.S. Forest Service in partnership with states. This partnership is aimed at protection of environmentally sensitive private forest lands. Mostly, FLP easements restrict development and require sustainable forestry practices. FLP can also directly support land acquisition. As of 2008 in the U.S., almost 1.6 million acres of privately owned forest land have been protected (Table 43-2). About 85 percent of this national total (roughly 1.3 million acres) has been protected through state-level conservation easements (FLP supported specifically). Another 0.2 million acres (about 15 percent) was protected through fee simple acquisition. Much of this protected private forest land is in the North region, over 70 percent. By far, the state of Maine was the most successful single state in protecting forest land through the FPL. That state's program added well over 600 thousand acres through easements and purchase. Next was New Hampshire, followed by Montana.

Table 43-2 -- Total private forest acres protected by conservation easements or fee simple purchases through the Forest Legacy Program as of February 2008 by RPA Region.

RPA Region	Acres protected	Percent
North	1,116,810	70.9
South	114,099	7.2
Rocky Mountains	281,209	17.8
Pacific Coast	64,176	4.1
U.S. Total	1,576,294	100.0

Source: USDA Forest Service, Forest Legacy Program. (http://www.fs.fed.us/spf/coop/programs/loa/flp_projects.shtml).

What has changed since 2003?

A significant total area of forest land has been added to the U.S. experimental forest system (national increase of 65 percent since 2003). Much of this increase has been in the Pacific Coast region, mainly by adding a Hawaiian tropical forest (almost 313 thousand acres of state land) and over 7 thousand acres of the Tahoe National Forest in California. Slight loses of public land overall in the North and South are primarily reflecting differences in land area estimation methods between the different time periods. For private forest land, there has been a dramatic increase since 1985 in total private forest acres protected.