

Indicator 1.02.

Area and Percent of Forest in Protected Areas by Forest Ecosystem Type, and by Age Class or Successional Stage

What is the indicator and why is it important?

The area and percent of forest ecosystems reserved in some form of protected status provides an indication of the emphasis our society places on preserving representative ecosystems as a strategy to conserve biodiversity. Important forest management questions also can be addressed by maintaining information on a network of representative forest types within protected areas. Traditionally, protected areas have been set aside, in part, for their conservation, scenic, and recreational values. The ecosystems in any one area might not represent the full range of biodiversity, but if it is part of a national conservation strategy (including rare and endangered species), then some degree of overall protection is available. Over time, forest types and their associated flora and fauna within protected areas will change and must be monitored as part of an overall strategy for conserving biodiversity. Adequate protection of the ecosystems and species in protected areas may also provide more management flexibility in forests under management for wood production and other uses.

What does the indicator show?

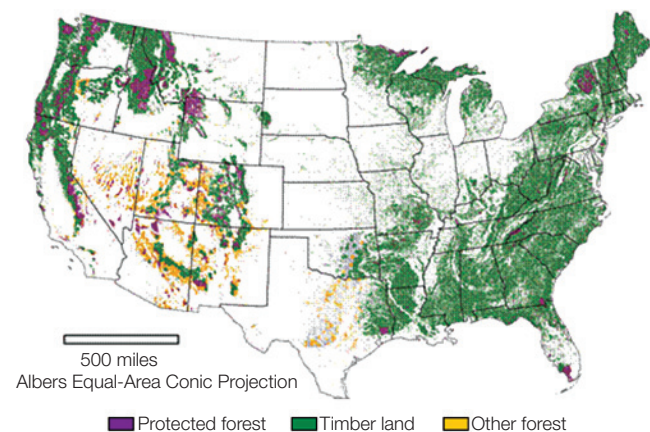
The United States has a long history of forest protection. Yellowstone, one of the world's first national parks, had its land area set aside in 1872. In the late 1800s, the Forest Reserves (now the national forests) were established to protect water and provide timber. The passage of the Wilderness Act in 1964 (*Public Law 88-577, 16 U.S.C. 1131–1136*) provided further protection to millions of acres of forest throughout the United States. Protected forest areas are scattered throughout the United States but are most abundant in the West, predominantly on Federal public land. In the East, the Adirondack and Catskills Reserves managed by the State of New York, at nearly 3 million acres total area, and set aside nearly 100 years ago as wild forever, are two of the largest areas of protected forest in non-Federal ownership.

This indicator currently addresses public protected forest areas, but millions of acres of private protected forests exist as well. These forests are primarily in various forms of conservation easements and fee simple holdings of several nongovernmental

organizations (NGOs), such as The Nature Conservancy, Ducks Unlimited, The Conservation Fund, and The Trust for Public Land. The National Land Trust Census in 2005 conservatively estimated 37 million acres of private land in protected status. The overall data from the various sources, however, are inconsistent both spatially and as to how much of the areas are forested. Major efforts are under way to improve the quality and coverage of this data and future reports will be able to address these areas in a more consistent way.

Public protected areas in the United States are found within six IUCN (International Union for Conservation of Nature) categories (wilderness, national parks, National Monuments, wildlife management areas, protected landscapes, and managed resource areas—see Glossary for more detailed descriptions), and are estimated to cover about 154 million acres (7 percent of all land) in the United States. An estimated 106 million acres of these protected lands are forested, representing 14 percent of all forest land (fig. 2-1). Conifer forests, particularly on public lands in the West (Rocky Mountain, Pacific Coast, and Alaska Regions), have a larger percentage of area in protected status in the United States (fig. 2-2a). The highest proportions of protection in conifer types are lodgepole pine at 49 percent, followed by western white pine at 38 percent and fir-spruce at 34 percent of total forest area in each type.

Figure 2-1. Forest land by major forest land class in the United States (excluding Alaska and Hawaii), 2007.



A smaller proportion of broadleaf forests are in protected status because many of these forests are in the Eastern United States, where private ownership is predominant. (fig. 2-2b). The highest proportions of protection in the East are spruce-fir at 6 percent, maple-beech-birch at 6 percent and white-red-jack pine at 5 percent.

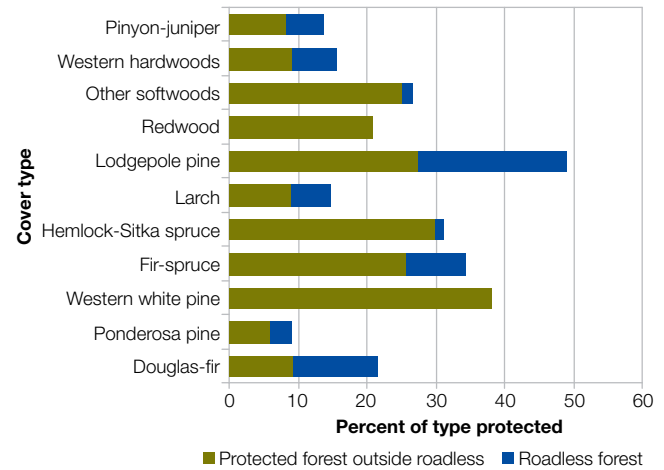
Protected forests are relatively older than those on unprotected lands (fig. 2-3). Roadless areas have 52 percent of stands more than 100 years old and other protected areas have 49 percent of stands more than 100 years old, although all other forests outside protected areas have only 14 percent of stands more than 100 years old. The more active management for wood products on the latter skews the forest area to younger age classes. Many of the younger stands in protected areas are the result of fires that have occurred in western forests at higher levels of frequency in recent years.

If protected areas are not large enough to support the full range of habitat attributes need to sustain all ecosystem components, areas outside protected status are needed to contribute to biodiversity goals. The ability to manage both public and private unprotected forest lands for these broader goals will depend on the management objectives of the owners and their willingness to consider management options that can be integrated with those for protected areas.

What has changed since 2003?

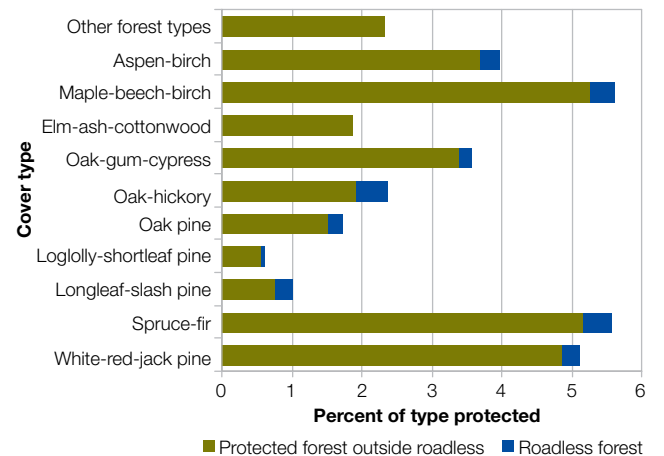
The area of public protected forests has changed little since 2003. As described in Indicator 27 and earlier in this indicator, conservation easements and related mechanisms by which private lands are assured some level of protection are growing in importance. Currently, the total area protected in this fashion is smaller relative to the area of publicly protected lands, but it is growing rapidly with the support of both public and private funding sources and will play a significant role in future forest policies both locally and nationally.

Figure 2-2a. Percent of public forest land protected by cover type in the West, 2007.



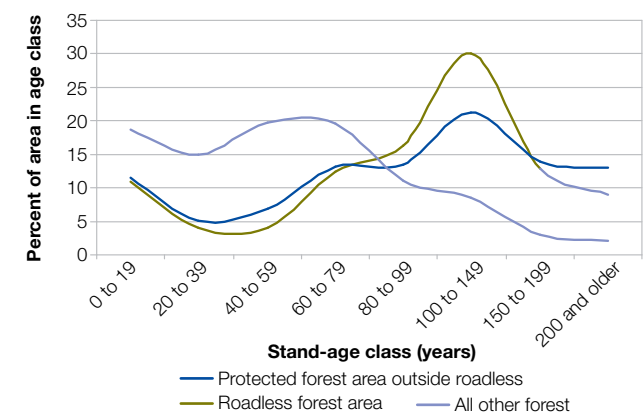
Source: Conservation Biology Institute and USDA Forest Service, Forest Inventory and Analysis

Figure 2-2b. Percent of public forest land protected by cover type in the East, 2007.



Source: Conservation Biology Institute and USDA Forest Service, Forest Inventory and Analysis

Figure 2-3. Protected and other forest land by stand-age class, 2007 (does not reflect private protected forests).



Source: Conservation Biology Institute and USDA Forest Service, Forest Inventory and Analysis