

Reserved and Roadless Forests

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Some 74 million acres of forest land, or 10 percent of all U.S. forest land, are permanently reserved from wood product utilization through statute or administrative designation. A large part of these lands is in wilderness areas, national parks, and national monuments. Although the primary reason for protecting many of the areas is not preservation of forest characteristics, the forest land they contain may be different from those of forest land in general, either regionally or nationally. For instance, national forest wilderness areas in the West are often at the highest elevations in the national forests. Because reserved forests are less intensively managed than other forests, at least through timber removal, differences in stand age and fuels accumulation would be expected.

Reserved forest land is defined as those forested areas that are withdrawn from wood production by legal statute. The majority holders of these areas include national parks, National Forest System wilderness areas, and State parks. Many of these reserved lands in the West are remote and thus serve as irreplaceable habitat for species that do not coexist well with humans, such as the grey wolf (*Canis lupus* and *Canis lupus baileyi*) or the grizzly bear (*Ursus arctos horribilis*). Some of these areas contain the elevation fringe of forest/nonforest where species may tend to be most sensitive to environmental change. Effects of pollution or global climate change would tend to show in these high elevation types before other types in more hospitable environs.

Beginning with the second Roadless Area Review and Evaluation (RARE II) in 1979, the Forest Service has inventoried roadless areas within their boundaries. These areas were categorized in forest management plans as (1) areas where road construction or reconstruction were permitted, (2) areas where road construction or reconstruction were prohibited, or (3) recommended for wilderness area designation. The 2001 Roadless Area Conservation Rule prohibits, with specific exceptions, both road construction and wood production in all three categories of inventoried roadless areas. Currently, after several judicial decisions and rule modifications, the Roadless Rule allows for Governors to petition to establish management requirements for inventoried roadless areas within their States.

Fifty-eight million acres (32 million acres forested), or 8 percent of all U.S. national forest land, are inventoried roadless areas protected under the Roadless Rule. This represents about 31 percent of the National Forest System land base (USDA 2007). Because roadless areas are established administratively rather than legislatively, inventoried roadless areas were placed in a separate category from available and reserved forest lands in the following descriptions to provide a better understanding of the forest resources in this specific designation.

Area and Distribution

Excluding Alaska, there are about 41.5 million acres of reserved forest land in the United States (fig. 2b.1), with nearly 80 percent of this area—31.7 million acres—located in the West. The North region has more than 6 million acres of reserved forest land and the South region has about 3.4 million acres. In the West the largest portion of reserved forest exists (more than 66 percent) on national forests, mostly in wilderness areas, but also exists in national parks, such as Yosemite, Yellowstone, and Olympic. The National Park Service has a substantial holding of reserved forest land, with 17 percent of the total in the West. In the North region, States have the majority holdings with 62 percent of the reserved forest land, including New York's Adirondack State Park and Catskill Reserves, and the Forest Service has the Boundary Waters Canoe Area Wilderness in Minnesota. In the South region, the majority holder is the National Park Service, with 39 percent, including the Great Smoky Mountains National Park, followed by the Forest Service, with 21 percent. Although World Conservation Union (IUCN) protected area categories (Table 2b.1) do not match perfectly with “reserved forests” and the ownership/management of those forests, we can use IUCN category assignments (WDPA Consortium 2006) to estimate how much reserved forest land falls into IUCN categories. Category assignment varies across and between States for State-owned protected areas, and forest inventory records lack the information detail to sort them. But Federal land management agencies have a more consistent category assignment, and forest land information can be assigned to major agencies, if not to different designations within an agency (for example,

national park vs. national monument), to sort them. The major land management agencies, their most common management designations with reserved forest land, and the most common or “typical” IUCN category designation appear in table 2b.1.

Federal agency	Major area designations (typical IUCN category)
Forest Service	Wilderness areas (Ib) Nonreserved roadless (VI)
National Park Service	Wilderness areas, mostly within national parks (Ib) National parks (II) National monuments (III) National recreation areas (V) National preserves (IV, V) Various historic designations (V)
Bureau of Land Management	Wilderness areas (Ib) National monuments (III)
Fish and Wildlife Service	Wilderness areas (Ib) National wildlife refuges (IV)

Table 2b.1. Major land management agencies by management designation and IUCN category designation.

At least two-thirds of the Nation’s reserved forest land, outside interior Alaska, is in IUCN category Ib, identified as wilderness areas managed by each of the four agencies within the National Wilderness Preservation System. More than 10 percent of the reserved forest land is in category II, mostly identified as the nonwilderness portions of national parks. Between 5 and 10 percent are in categories III, IV, and V, identified as national monuments managed by the National Park Service and the Bureau of Land Management, national wildlife refuges and national preserves, and national recreation areas and various other areas managed by the National Park Service, respectively.

Roadless areas on national forest lands (IUCN category VI, along with most nonwilderness Forest Service land) exist mainly in the West, with about 42 million acres of combined forest and nonforest land outside of Alaska, about 15 million acres in Alaska, and about 2 million acres in the Northern and Southern United States. Aside from Alaska, Idaho and Montana have the greatest amount of roadless area, with 9.3 and 6.3 million acres, respectively.

Character

Reserved lands can be a haven for rare forest types. More than 80 percent of the red spruce type in the South region is in reserved lands. In the Pacific Northwest subregion, more than 60 percent of the whitebark pine and more than 80 percent of the Alaska yellow-cedar types exist as remnant stands in reserved areas. The Intermountain region has 44 percent of its whitebark pine in reserved areas. In California, more than 60 percent of the lodgepole pine and foxtail/bristlecone pine types exist in reserved areas. With the exception of Alaska yellow-cedar, all of the above examples are correlated with higher elevation forests within the individual regions. The Intermountain region has more than 50 percent of the Engelmann spruce, subalpine fir, lodgepole pine, and whitebark pine types in the reserved or roadless classifications. Including the roadless areas, the Pacific Northwest subregion, including California, has more than 50 percent of the pinyon-juniper, western white pine, red fir, subalpine fir, mountain hemlock, whitebark pine, Alaska yellow-cedar, foxtail/bristlecone pine, and limber pine types in either roadless or reserved areas.

Roadless areas are often adjacent to designated reserved areas in the West and, thus, they share some of the same characteristics, including age, species, and elevation distribution.

Nationwide, stand ages on reserved forest land are in older classes than on nonreserved forest land, with 48 percent of reserved forests more than 100 years old, as compared with 16 percent for nonreserved forests. In the East (North and South regions), most stands (reserved and nonreserved) are less than 100 years old, and more nonreserved stands are used for wood products than in the West. In the East the sorting of the proportion of reserved and nonreserved forest land into 20-year age classes creates distinct distributions for reserved and nonreserved forests. In the West, trees mature more slowly, and a larger proportion of the stands (reserved and nonreserved) are more than 100 years old, but stands 100 years old are relatively more common in reserved forests than in nonreserved forests (figs. 2b.2a and 2b.2b). Another apparent anomaly in the West is the higher proportion of stands 20 years old or less, in both reserved and nonreserved areas. Many of these young forests are regenerating from large wildfires that occurred over the past few decades. Reserved areas in which fires occurred include Yellowstone National Park and surrounding wilderness areas, Glacier National Park and nearby wilderness areas, and the large wilderness areas in central Idaho.

Stand ages in the roadless areas of the West follow a similar distribution as the reserved areas (fig. 2b.2a). In the West, more than 58 percent of the forest land in reserved areas and more than 53 percent of the forest land in roadless areas are in the age class of 100+ years. The roadless areas also mirror the reserved lands in the younger age classes, owing to recent large fires.

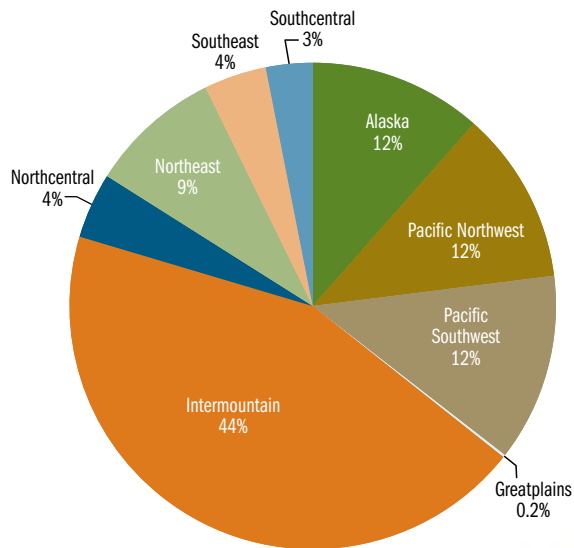


Figure 2b.1. Proportion of forest in reserved status by subregion, 2007.

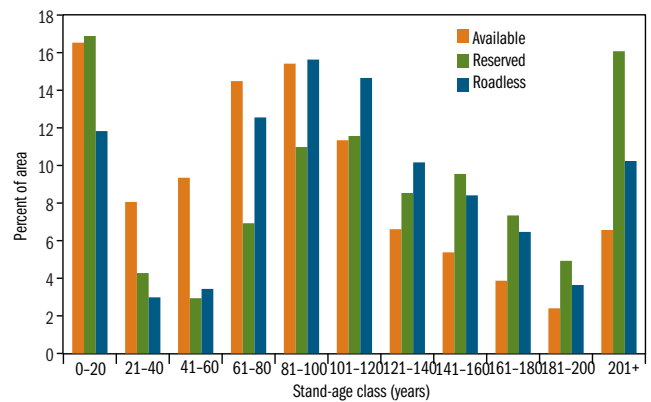


Figure 2b.2a. Proportion of available, roadless, and reserved forest in the Western United States by age-class, 2007.

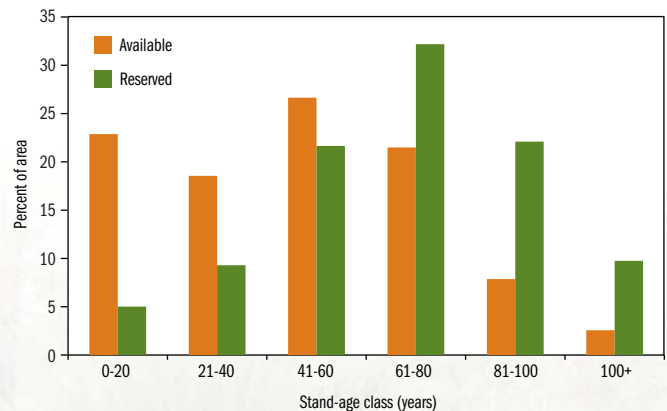


Figure 2b.2b. Proportion of available and reserved forest in the Eastern United States by age-class, 2007.