



Nature's Benefits from Your National Forests

The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.

The Agency's 154 national forests and 20 grasslands engage in quality land management that offers multi-use opportunities to meet the diverse needs of people. Forest ecosystems are human, plant, and animal life-support systems that provide a suite of goods and services vital to human health and

livelihood—essentially Nature's Benefits, also called Ecosystem Services. Benefits from healthy forest ecosystems include: water supply, filtration and regulation (flood control); habitat for native wildlife and plants; carbon sequestration; jobs, commerce, and value to local economies; recreational opportunities and open space for communities; increased physical and psychological wellness; cultural heritage; wood and other non-timber forest products; energy; clean air; and pollination.

Do You Know Which Nature's Benefits Come from the Inyo National Forest?

Water: In drought-prone California, the quantity, quality, and timely provision of our water is dependent on the health of our national forests. The forests supply, filter, and regulate water from upper watersheds and meadows, providing clean water throughout the year to communities, homes, and wildland habitats. Water also helps support jobs and industries that are water-dependent.

- About 2.1 million acre-feet of water per year come from the Lassen National Forest¹
 - Or over 704 billion gallons per year

That equates to:

- Over 1 million Olympic-size swimming pools
- Enough drinking water for California's population for more than 60 years², or
- Enough water for over 5.3 million households for a year³

How much is 704 billion gallons worth?

- Estimated wholesale market value: over \$204 million⁴
- Cost to Los Angeles households: over \$23.2 billion⁵

SOURCES

¹Brown et al., 2016- Mean annual renewable water supply of the Contiguous United States. <https://www.fs.fed.us/rmrs/documents-and-media/really-mean-annual-renewable-water-supply-contiguous-united-states>

²Per the National Health and Nutrition Examination Surveys, the average American consumes ~299 gallons/year of water, through both drink and food ³Assuming 362 gallons/day - <http://www.irwd.com/images/pdf/save-water/CaSingleFamilyWaterUseEfficiencyStudyJune2011.pdf>

⁴Using CA water market prices, appropriated by sector - https://www.fs.fed.us/rm/value/docs/marginal_economic_value_streamflow_forests.pdf

⁵100 gallons/day + monthly water bill of ~\$100.14 - <http://www.circleofblue.org/waterpricing/>



Nature's Benefits

Lassen National Forest

(Continued)

Carbon: The National Forests of California play an important role in parts of the climate cycle; acting as carbon storage and sequestration units. Forests retain carbon from being emitted to, and absorb carbon dioxide (CO₂) from, the atmosphere, which helps reduce the impacts of a warming climate to human, plant and animal habitats.



- The Lassen National Forest stores about 104.83 Million Metric Tons (MMT) of Carbon in its forests, and ⁶
- Sequesters on average 0.10 MMTC annually; this equates to enough to drive around the earth 37,108 times.

Local Economies: The economy of California is fifth largest in the world, and California's National Forests contribute almost \$2.6 billion annually in wages and income to small businesses,⁷ a critical component of the rural economy of the state.



The Lassen National Forest supports:

- About \$70.8 million annually in labor income for wage earners and local businesses⁸
 - Including food and lodging services, arts, entertainment and recreation, real estate, rental and leasing, and retail trade services.
- About 1,400 jobs annually⁹

Recreation: The Lassen National Forest provides a place for people to find open space, experience wildlife, recreate, relax, and otherwise remove themselves from the stressors of everyday life and urban sprawl.



Many methods exist to calculate the benefits from recreation and the value of those benefits to visitors and local economies. The following provide some estimations of those values:

- Over 269,000 people visit the Lassen National Forest to recreate annually, which represents an economic value of about \$20 million to them¹⁰
- Visitors to the Lassen National Forest spend about \$14 million during their trips¹¹
- Visitors to the Lassen National Forest contribute about \$5.1 million towards wages and income of local businesses¹²

The Lassen National Forest landscape includes diverse recreation opportunities such as water recreation (fishing, swimming, and rafting) as well as camping, picnicking, and green open space for activities that support human wellness and cultural traditions.¹³

- 1,850 lakes and ponds
- 3,909 miles of rivers and streams
- 494 miles of trails

SOURCES

⁶<https://bofdata.fire.ca.gov/projects-and-programs/ab-1504/>

^{7, 8, 9}Job and Income Contributions for 2014-At A Glance-Region, <https://www.fs.fed.us/emc/economics/contributions/at-a-glance.shtml> ¹⁰NVUM, R5 Calculations based on GTR-957 - Rosenburger et al., 2017 - <https://www.fs.usda.gov/treesearch/pubs/54602>

¹¹R5 Calculations based on GTR-961 - White, 2017- https://www.fs.fed.us/pnw/pubs/pnw_gtr961.pdf

¹²<https://www.fs.fed.us/emc/economics/contributions/at-a-glance.shtml>

¹³Enterprise Data Warehouse

This cut timber has an estimated value of over \$13 million²² and:

- Produced about 19,000 MBF of lumber, and is
 - Worth over \$7.4 million
- Produced over 49,000 bone dry tons of wood for biomass energy, or
 - Enough to power over 7,000 homes for the year, and is
 - Worth over 5.5 million
- Produced over 3,000 tons of landscaping material, and is
 - Worth over \$33,000
- In addition, the Lassen National Forest:
 - Sold about 23,543 cords of firewood, worth over \$126,700
 - Sold 8,299 Christmas trees, worth over \$82,687