



## 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 Los Padres National Forest along with the agency's other 153 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 Los Padres 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 858,000 acre-feet of water per year come from the Los Padres National Forest<sup>1</sup>
  - Or over 279 billion gallons per year

*That equates to:*

- Over 420,000 Olympic-size swimming pools
- Enough drinking water for California's population for more than 23 years<sup>2</sup>, or
- Enough water for over 2.1 million households for a year<sup>3</sup>

*How much is 279 billion gallons worth?*

- Estimated wholesale market value: over \$80 million<sup>4</sup>
- Cost to Los Padres households: over \$9.2 billion<sup>5</sup>

#### SOURCES

<sup>1</sup>Brown 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>

<sup>2</sup>Per the National Health and Nutrition Examination Surveys, the average American consumes ~299 gallons/year of water, through both drink and food

<sup>3</sup> Assuming 362 gallons/day - <http://www.irwd.com/images/pdf/save-water/CaSingleFamilyWaterUseEfficiencyStudyJune2011.pdf>

<sup>4</sup>Using CA water market prices, appropriated by sector - [https://www.fs.fed.us/rm/value/docs/marginal\\_economic\\_value\\_streamflow\\_forests.pdf](https://www.fs.fed.us/rm/value/docs/marginal_economic_value_streamflow_forests.pdf)

<sup>5</sup>100 gallons/day + monthly water bill of ~\$100.14 - <http://www.circleofblue.org/waterpricing/>

### 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 (CO<sub>2</sub>) from, the atmosphere, which helps reduce the impacts of a warming climate to human, plant and animal habitats.

- The Los Padres National Forest stores about 39.20 Million Metric Tons (MMT) of forest Carbon<sup>6</sup>
- Shrublands on the Los Padres National Forest, like chaparral, store about an additional 6.2 MMT of carbon.<sup>7</sup>
- The Forest sequesters on average -0.17 MMTC annually.

### 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,<sup>8</sup> a critical component of the rural economy of the state.

#### *The Los Padres National Forest supports:*

- About \$103.4 million annually in labor income for wage earners and local businesses<sup>9</sup>

- Including food and lodging services, arts, entertainment and recreation, real estate, rental and leasing, and retail trade services.
- About 1,500 jobs annually<sup>10</sup>

### Recreation: The Los Padres 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 938,000 people visit the Los Padres National Forest to recreate annually, which represents an economic value of over \$75 million to those visitors<sup>11</sup>
- Visitors to the Los Padres National Forest spend about \$25 million during their trips<sup>12</sup>
- Visitors to the Los Padres National Forest contribute more than \$11.4 million towards wages and income of local businesses<sup>13</sup>

The Los Padres National Forest landscape includes diverse recreation opportunities such as water recreation (fishing, swimming, and rafting) as well as camping, picnicking, and green space for activities that support human wellness and cultural traditions.<sup>14</sup>

#### SOURCES

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

<sup>7</sup>Molinari Method

<sup>8, 9, 10</sup>Job and Income Contributions for 2014-At A Glance-Region, <https://www.fs.fed.us/emc/economics/contributions/at-a-glance.shtml>

<sup>11</sup>NVUM, R5 Calculations based on GTR-957 - Rosenburger et al., 2017 - <https://www.fs.usda.gov/treearch/pubs/54602>

<sup>12</sup>R5 Calculations based on GTR-961 - White, 2017- [https://www.fs.fed.us/pnw/pubs/pnw\\_gtr961.pdf](https://www.fs.fed.us/pnw/pubs/pnw_gtr961.pdf)

<sup>13</sup><https://www.fs.fed.us/emc/economics/contributions/at-a-glance.shtml>

<sup>14</sup>Enterprise Data Warehouse



# Nature's Benefits

Los Padres National Forest

(Continued)

- 293 lakes and ponds
- 2,892 miles of rivers and streams
- 1,453 miles of trails
- 866,297 acres of wilderness
- 115 miles of Wild and Scenic Rivers
- 62 developed campgrounds
- 14 developed picnic areas

People visit their National Forests to engage in specific activities that provide value to them from their experiences as shown below:

- Over 385,000 people visit the Los Padres National Forest annually to hike and walk as their main activity, which represents an economic value of over \$33 million to those visitors.<sup>15</sup>
- Over 62,000 people visit the Los Padres National Forest annually to camp and backpack as their main activity, which represents an economic value of over \$5.2 million to those visitors.<sup>16</sup>
- Over 126,000 visit the Los Padres National Forest annually to bicycle as their main activity, which represents an economic value of over \$11 million to those visitors.<sup>17</sup>

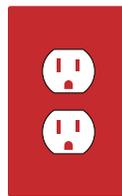
**Habitat:** Forest Habitats and Biodiversity are key to ecological function; a forest's daily function in turn allows all of Nature's Benefits, from water to recreation, to continue to be provided for humans to enjoy.



The Los Padres National Forest hosts a multitude of key habitats for animals and plants.

- 20 Threatened and Endangered Species can be found on the Los Padres National Forest that include: California condor, Southern steelhead, California red-legged frog, Arroyo toad, Western yellow-billed cuckoo, purple amole, marbled murrelet, Stellar's sea lion.<sup>18</sup>

**Energy:** The Los Padres National Forest energy infrastructure provides power generation for public benefit and includes:



- Installed hydro plant capacity of approximately 1.5 megawatts, which could meet the power needs of more than 1,200 households<sup>19</sup>
- Over 180,000 barrels of oil with a sales value of almost \$7 million
- An estimated 380,000 thousand cubic feet (mcf) of gas sold worth over \$750,000
- Estimated annual solar electricity output is 233,272 kilowatt hours, enabling greater use of federal taxpayer funds to go towards forest restoration<sup>20</sup>

## SOURCES

<sup>15, 16, 17</sup>R5 Calculations based on GTR-957 - Rosenburger et al., 2017 - <https://www.fs.usda.gov/treesearch/pubs/54602>

<sup>18</sup>Master R5 TE Species List 20191016; <https://ecos.fws.gov/ipac/>

<sup>19</sup>June 2016 R5 Inventory of FERC Licensed Hydropower projects

<sup>20</sup>2015 Forest Service Energy & Sustainability Reporting; Southern California ESPC ENABLE Project Final Proposal; Federal Aggregated Solar Procurement Project