

## **Gross Domestic Product (GDP) -** **Forest Service Recreation Contributes to the National Economy**

(The following paper explains how the Forest Service calculates the contributions to national GDP from the recreation program.)

What role does the Forest Service recreation program play in the U.S. economy? The Forest Service estimates the contribution of its recreation program to the national economy in terms of the portion of Gross Domestic Product (GDP) that is sustained or maintained by spending on goods and services directly associated with recreation visits to National Forest System (NFS) lands.

For example, these goods and services include items such as transportation, lodging, food, guide and activity fees purchased during the visit. Pre-visit expenditures on durable goods, such as 4-wheel drive vehicles and camping trailers, are excluded because they are usually purchased off-site and their value cannot be attributed solely to a particular recreation trip to NFS lands. Only visitors' expenditures made within 50 miles of the recreation site are included in the computation of the average spending. This geographic limit:

- (1) is consistent with procedures used by other federal resource management agencies;
- (2) eliminates potential double counting of spending on long distance trips that often involve visits to multiple destinations; and
- (3) provides comparability to the economic zone utilized in analysis of other NFS outputs.

The per-visit spending average is combined with national estimates of recreation use to determine total visitor spending associated with trips to NFS lands. The Forest Service uses models of the U.S. economy created with a standard analytical protocol (the IMPLAN model) to estimate the multiplier effects of visitor spending. The direct effects include visitor spending while indirect multiplier effects capture the supply-chain linkages. IMPLAN calculates the value-added incomes associated with the multiplier effects. The summary measure of value-added incomes is the contribution to GDP.

Visitation and spending profile data are drawn from the National Visitor Use Monitoring (NVUM) program. The NVUM program updated the procedures previously used to obtain visitor use estimates after their validity was questioned. The new NVUM procedures were pilot tested in 1998. In 1999, the refinement, peer review, and documentation of the NVUM sample methods, survey design, and analysis process occurred. National field implementation of the sampling methods began in January 2000. By September 2003, all units of the NFS had been sampled. The sampling process for each forest was distributed over a full year. Spending data were collected from about every third person sampled. NVUM has initiated a second round of sampling intended to update visitation estimates on individual national forests on a five-year cycle, and regional and national estimates every year.

NVUM provides statistically reliable estimates of visitation and visitor characteristics. Use of this consistent sampling procedure enables the Forest Service to document trends in recreation use over time.

**For more detailed information on NVUM go to:**  
[www.fs.fed.us/recreation/programs/nvum/](http://www.fs.fed.us/recreation/programs/nvum/)