



Forest Engineers helped with the design and installation of bottomless culverts. This project restored access to 2.5 miles of stream for native cutthroat trout in Trail Creek on the Sulphur Ranger District.

## ENGINEERING 2012 FACTS

- Decommissioned **4 miles** of system road and **19 miles** of unauthorized routes.
- Maintained **302 miles** of passenger-car roads.
- Maintained **77 miles** of high-clearance roads.
- Maintained **126 miles** of roads for Roadside Hazard Tree and Bark Beetle mitigation work.
- Removed **22 buildings** at the Clear Creek Dude Ranch with majority of materials recycled.



6 kilowatt solar photovoltaic system at the Boulder Ranger District.

# ENGINEERING FACILITIES

## Roads, bridges and sustainability

The Arapaho and Roosevelt National Forests and Pawnee National Grassland (ARP) provide more than 1,570 miles of roads open to motorized travel with 35 road bridges/major culverts, and 168 administrative facilities. Engineering continues to support the resource needs necessary for management of the National Forests and Grassland by continuing to work toward an infrastructure that meets current and future demands.

- ▶ The ARP continues to plan and identify routes for **road decommissioning** on a yearly basis. 2012 focused on a review of the decommissioning program on the Sulphur Ranger District, which has restored more than 100 miles of obsolete logging roads and user-created routes since 2006. This effort has helped **improve watershed quality** and **increase wildlife habitat**.
- ▶ The majority of discretionary road funding is dedicated to **roadside hazard tree removal** and supporting the **long-term stewardship contract**. This effort helped mitigate hazard trees along some 126 miles of roads on the Forests in 2012.
- ▶ The Forest is leading the region in developing and identifying the **Minimum Road System** needed for safe and efficient travel and for the protection, management and use of NFS lands. The process also involves identifying roads that are no longer needed to meet forest resource management objectives and, therefore, should be scheduled for decommissioning or considered for other uses.
- ▶ Boulder Ranger District installed a **6 kilowatt solar photovoltaic system** at its offices. The system will provide roughly 9 percent of the total facilities electrical needs and reduced an estimated seven metric-tons reduction of carbon dioxide emissions.
- ▶ The ARP continues to **reduce its petroleum consumption** and leads the region is having the **best average gas mileage**. To continue this progress, the Forest invested in a plug-in hybrid electric car to add to its 2013 fleet.
- ▶ The Forest completed a self-review of its annual utility bills to identify facilities with the highest energy and water use. This data was used to develop a strategy for **reducing energy and water consumption**.



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