**Update to the 2010 Resources Planning Act (RPA) Assessment:** The Forest and Rangelands Renewable Resources Planning Act (RPA) of 1974 requires the Forest Service to prepare an assessment of renewable natural resources on the nation’s forests and rangelands every 10 years. The RPA Assessment provides a snapshot of current U.S. forest and rangeland conditions and trends on all ownerships, identifies drivers of change, and projects conditions 50 years into the future. This interim update builds upon the 2010 RPA Assessment and provides more recent information and new analyses about resource conditions and trends on the Nation's forests and rangelands. Supporting documents will be released as they become available and may be accessed on the RPA website (http://www.fs.fed.us/research/rpa/).

**Key Findings from the Update to the 2010 RPA Assessment:**

- Land development will continue to threaten the integrity of forest and rangeland ecosystems.
  - Developed land cover of the conterminous United States increased 15 percent between 1992 and 2011; urban area expanded 45 percent between 1990 and 2010.
  - While forest area increased slightly in the last decade, forest fragmentation increased between 2001 and 2011. Fragmentation rates were higher on private land than on public land.
  - Housing development patterns in proximity to protected areas can affect bird communities at the boundary of and within the protected area.
  - Endangered and threatened species continue to be concentrated in distinct regions of the United States.
  - The highest risk levels of impaired water quality resulting from land and resource use generally were found in the eastern United States, corresponding to higher population and development density and concentrations of agricultural production.

- Climate change and natural disturbances will alter forest and rangelands ecosystems and affect their ability to provide ecosystem services.
  - Forest growth increased between 2007 and 2012, except in the Rocky Mountain Region, where average annual net growth slowed by 48 percent since 2007 largely because of mountain pine beetle infestations.
  - Climate effects on western rangelands are projected to vary: northern rangeland ecosystems are likely to experience increased productivity, while southern rangeland productivity will likely decline. The vulnerability of cattle production to climate change is lower in the northern rangeland ecosystems.
  - Outdoor recreation demand is projected to increase for most activities. Climate change was projected to have negligible effects on participation decisions for most outdoor recreation activities, but significant positive and negative effects on participation are projected for a small number of activities. Positive effects occur for horseback riding on trails, motor-boating, and fishing. The most negatively affected activities include snowmobiling hunting, undeveloped skiing, and floating.
  - Adaptation options may reduce vulnerability to water shortage, but no single option eliminates the likelihood of shortage in all basins. Some of the most effective options for reducing shortages have problematic trade-offs: continued groundwater mining imposes costs on future water users and can exhaust the recoverable groundwater supply. Reducing in-stream flow tends to harm aquatic life and lower the quality of in-stream recreation.

**Contact:** Linda Langner, llangner@fs.fed.us, FS Research and Development RPA National Program Leader
- Terrestrial wildlife habitats, already affected by fragmentation and conversion of native vegetation to urban and developed areas, will be stressed further by changes to terrestrial habitat attributed to climate change.

- Increasing demands and effects of climate change will impact the provision of ecosystem services.
  - U.S. forests continue to accumulate carbon but at a decreasing rate, primarily due to land use change and forest aging.
  - Timber growers and forest product manufacturers may experience only weak improvement in forest product markets in the near-term. Growth in overseas paper manufacturing output, shrinkage in U.S. manufacturing, and substitution by electronic media continue to put downward pressure on U.S. paper and paperboard production. The outlook for solidwood products is uncertain. U.S. demand is tied primarily to housing, which is recovering, but may not recover to previous levels.
  - The U.S. pellet export market is projected to continue to grow. Increases in pellet production for export could significantly increase the South’s share of timber removals, and lead to increased timber harvests and increased timber prices.
  - Two-thirds of watersheds that support a high proportion of at-risk aquatic biodiversity have a collateral stake in drinking water protection, providing opportunities for joint benefits from water quality protection.