

Well-Managed Forests are Healthy Forests

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An unmanaged forest is an unhealthy forest, susceptible to insect infestation and catastrophic megafires¹, which release huge amounts of harmful carbon dioxide into the air—contributing to global warming.



“Management techniques—including thinning, restoration and replanting—provide the best long-term steady source for removing carbon dioxide from the atmosphere.”²

With history as a guide and modern science as a tool, we know how to responsibly manage forests to ensure forest health.³ Today, foresters have the science expertise and technologies to restore forests to a more natural healthy condition.

The sequence of photos below shows how active forest management helped restore a healthy stand while saving the forest from a catastrophic fire.



Pre-thinning



Post Thinning, Pre-fire



Post Thinning, Post-fire

¹ National Association of Conservation Districts, *Forestry Notes Special Report*, December 2006. Page 2

² California Forestry Association. “California Forests: Global Climate Change, Forestry Never Looked So Cool.” Volume 10 Number 1. Winter 2006. Pages 10-11. <http://www.calforests.org/media/enhanced/Winter06-CalForest-FINAL.pdf>

³ Krankina, Olga N. and Mark E. Harmon, “Forest Management Strategies for Carbon Storage,” in *Forests, Carbon and Climate Change: A Synthesis of Science Findings*, Chapter Five, Oregon Forest Resources Institute, 2006.

Climate Benefits of an Actively-Managed Forest:

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- Risk of megafires is significantly reduced.⁴
- Forests continue to **absorb carbon and produce oxygen** every year when trees are replanted after wildfires or harvest.^{5, 6, 7, 8}
- Wood products from actively managed forests **not only store carbon** in long-lived wood products, **but also substitute for more fossil fuel intensive products** like concrete and steel.⁹
- Through sound management principles and practices, our forests could **offset 1.6 billion tons of CO₂ per year by 2025**—equal to nearly 85 percent of all CO₂ and NO_x emitted by all vehicles in the U.S.^{10, 11}
- Managed forests are a part of the reason **carbon stores are continuing to increase** even when considering fire and other forms of conversion in North America.¹²
- **Younger growing trees absorb carbon at a faster rate than aging trees.** A growing, actively managed forest absorbs and stores about two to six tons of carbon per acre per year for the first 15-75 years of its life before it begins to decline as the trees age.⁶



The principles of active management are vital to the future of our forests. Proper management can keep the forest safe, healthy and productive.



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4 White House, "Health Forests: An Initiative for Wildfire Prevention and Stronger Communities," August 22, 2002 www.whitehouse.gov/infocus/healthyforests/Health_Forests_v2.pdf

5 CH2M Hill, Climate Project: Carbon Sequestration and Storage by California Forests and Forest Products, August 2007.

6 American Forest & Paper Association, "Products and Production" in U.S. Forests Facts & Figures, 2001. http://www.afandpa.org/Content/NavigationMenu/Forestry/Forestry_Facts_and_Figures/products_production.pdf

7 California Forest Products Commission, "Modern Forestry & Climate Change," www.foresthealth.org/pdf/Modern%20Forestry%20and%20Climate%20Change.pdf

8 California Forestry Association. "California Forests: Global Climate Change, Forestry Never Looked So Cool." Volume 10 Number 1. Winter 2006. Pages 5, 8, 9, 11, 17

9 Lippke, Bruce; Wilson, Jim; Perez-Garcia, John; Bowyer, Jim; Meil, Jamie, "CORRIM: Life-Cycle Environmental Performance of Renewable Building Materials," Journal Forest Products, Vol. 54, No. 6, June 2004, Table 3

10 Nicholas Institute for Environmental Policy Solutions. 2007. "Harnessing Farms and Forests in the Low-Carbon Economy: How to create, Measure and Verify Greenhouse Gas Offsets." Duke University Press.

11 U.S. Dept. of Transportation; Bureau of Transportation Statistics. "National Transportation Statistics 2007": TABLE E-2 Carbon Dioxide Emissions by Mode: 1995-2005. http://www.bts.gov/publications/transportation_statistics_annual_report/2007/html/chapter_02/table_e_02.html

12 Nabuurs, G.J., O. Masera, K. Andrasko, P. Benitez-Ponce, R. Boer, M. Dutschke, E. Elsididig, J. Ford-Robertson, P. Frumhoff, T. Karjalainen, O. Krankina, W.A. Kurz, M. Matsumoto, W. Oyhantcaba, N.H. Ravindranath, M.J. Sanz Sanchez, X. Zhang, 2007: Forestry. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, Ö.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.