

Koa Silviculture and Forest Restoration on Degraded Landscapes

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Education

B.S., University of Missouri, Forest Management
M.S., University of Missouri Forest Fire Science
Advanced Graduate Studies, Oregon State University,
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Research Interests

Mr. Scowcroft is a Research Forester with the Institute's Forest Restoration Team. His research focuses on (1) developing effective silvicultural guidelines for management of *Acacia koa* forests and evaluating the impacts of silvicultural and harvesting practices on ecosystem services, and (2) identifying and developing mitigations for factors that limit artificial and natural regeneration of mixed-species native forests in degraded landscapes. He has authored or co-authored 33 peer-reviewed journal articles, book chapters and Station publications.

Active Projects on the HTEF

- USDA Tropical and Subtropical Research Pacific Special Research Grant. 2006-2009. Productivity data are being collected in secondary stands of *Acacia koa* along an elevational gradient in the HTEF as part of a broader project to develop productivity models and silvicultural guidelines for growing and managing koa. \$156,500. Project leads are J.B. Friday, T. Idol & P.G. Scowcroft.

Selected Publications

- Baker, P.J., Scowcroft, P.G., Ewel, J.J. 2009. Koa (*Acacia koa*) ecology and silviculture. *General Technical Report PSW-GTR-211*. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 129 p.
- Friday, J.B. Scowcroft, P.G., Ares, A. 2008. Responses of native and invasive plant species to selective logging in an *Acacia koa*-*Metrosideros polymorpha* forest in Hawaii. *Applied Vegetation Science* 11: 471-482.
- Scowcroft, P.G., Haraguchi, J.E., Fugii, D.M. 2008. Understory structure in a 23-year-old *Acacia koa* forest and 2-year growth responses to silvicultural treatments. *Forest Ecology and Management* 255: 1604-1617.
- Scowcroft, P.G., Friday, J.B., Idol, T., Dudley, N., Haraguchi, J., Meason, D. 2007. Growth response of *Acacia koa* trees to thinning, grass control, and phosphorus fertilization in a secondary forest in Hawaii. *Forest Ecology and Management* 239: 69-80.
- Baker, P.J., Scowcroft, P.G. 2005. Stocking guidelines for the endemic Hawaiian hardwood, *Acacia koa*. *Journal of Tropical Forest Science* 17: 610-624.
- Scowcroft, P.G., Silva, J.A. 2005. Effects of phosphorus fertilization, seed source, and soil type on growth of *Acacia koa*. *Journal of Plant Nutrition* 28: 1581-1603.
- Scowcroft, P.G., Haraguchi, J.E., Hue, N.V. 2004. Reforestation and topography affect montane soil properties, nitrogen pools and nitrogen transformations in Hawaii. *Soil Science Society of America Journal* 68: 959-968.
- Scowcroft, P.G., Meinzer, F.C., Goldstein, G., Melcher, P.J., Jeffrey, J. 2000. Moderating night radiative cooling reduces frost damage to *Metrosideros polymorpha* seedlings used for forest restoration in Hawaii. *Restoration Ecology* 8: 161-169.