

## **WILLIAM S. COOPER AWARD**

**Andrea H. Lloyd and  
Lisa J. Graumlich**

The William S. Cooper Award is given by the Society for recent contributions in geobotany, physiographic ecology, plant succession, or the distribution of organisms along environmental gradients. The 1998 recipients are Drs. Andrea H. Lloyd and Lisa J. Graumlich, for their 1997 paper "Holocene dynamics of treeline forests in the Sierra Nevada," which appeared in *Ecology* **78**:1199-1210.

This paper provides new insight into the dynamics of alpine treelines by showing that the dynamics are more complex than previously thought. An elegant 3500-year reconstruction of the tree population history, involving a combination of spatial mapping, tree-ring analyses, and climatic data, was done for several foxtail pine stands in the Sierra Nevada Mountains in Sequoia National Park. Although most studies have focused on interannual or millennial-scale variation in community dynamics, this paper settled on the intermediate time scale, examining change over decades and centuries. Lloyd and Graumlich's study techniques allowed more detail than most studies of this type, because cross-dating of a long-lived tree species like foxtail pine, which is also well preserved for many centuries after death, allowed reconstruction of abundance changes (as opposed to presence or absence) over time at a given location.

The analyses showed that some treeline changes were caused by high rates of adult mortality associated with severe droughts, whereas other treeline changes were caused by regeneration failure combined with high adult mortality, associated with a period of low temperatures. One of the principal results is that tree abundance has changed continuously, yet treeline itself had long periods of stasis, punctuated by shorter periods of change.

The winning paper was part of Andrea Lloyd's Ph.D. research program at University of Arizona-Tucson

Department of Ecology and Evolutionary Biology, where Lisa Graumlich was her advisor. Andrea Lloyd is currently Assistant Professor in the Department of Biology at Middlebury College, Vermont. Lisa Graumlich is currently on leave of absence from the University of Arizona, and is serving as Deputy Director of the nearby Biosphere II and Director of the Earth Learning Center at Biosphere II.

### **William S. Cooper Subcommittee**

Lee Frellich (Chair)  
Robert Knox  
Cliff Hupp  
Chris Fastie  
A. W. H. Damman  
David W. Roberts  
Joan Walker

## **CORPORATE AWARD**

### **Precious Woods, Ltd.**

This year's ESA Corporate Award is given, for "Sustainability of Biological Resources in Terrestrial Environments," to Precious Woods, Ltd. in recognition of their work in developing science-based forestry practices to enhance sustainability of biological resources. They have used advanced planning for long-term management of rain forests, with innovative inclusion of ecological principles. They are developing a model for use by a large number of other companies that do not now participate in long-term planning or include ecological principles and concepts.

Professor Frank McCormick, of the Department of Ecology and Evolutionary Biology, University of Tennessee-Knoxville, nominated Precious Woods, Ltd. because of their efforts to manage for sustainable forest production 81,000 ha of "terra firma" in Amazonas, Brazil.

The forest management project began in 1992. The company's practices were certified as meeting requirements set up by the Rain Forest Alliance's Smart Wood Program. Since