

April 30, 2010

Dear Board Member,

Below, for your review, is this month's briefing on recent activities and accomplishments in sustainability. On page two, I am pleased to introduce Professor Christopher Boone, an expert on the benefits of urban ecosystems for improving vulnerable communities.

Highlights of ASU's sustainability activities

- The New America Foundation and ASU hosted a forum on energy independence at the National Press Club in Washington, D.C., featuring industry, research, and policy experts. Among the panelists was Gary Dirks, director of ASU LightWorks and former president of BP Asia-Pacific and BP China, who advised a holistic approach to new energy focused on the evolution of new technologies and overcoming social and political barriers to adoption. [Read more.](#)
- Two ASU researchers have solved the messy problem of harvesting photosynthetic bacteria's energy-rich fatty acids for biofuels without killing the bacteria in the process. Postdoctoral researcher Xinyao Liu and Professor Roy Curtiss, both at ASU's Biodesign Institute, made the breakthrough when they engineered cyanobacteria to secrete fatty acids through their cell walls as they convert sunlight to usable energy. This new development saves time and waste, which lowers cost barriers to producing green biofuels. [Read more.](#)
- The Science Policy Assessment and Research on Climate project has released *Usable Science: A Handbook for Science Policy Decision Makers*, an essential guide for research managers and policymakers involved with sustainability research. The handbook, which is a collaboration of ASU's Consortium for Science, Policy and Outcomes and the University of Colorado's Center for Science and Policy Technology Research, provides specific recommendations and examples for setting research policies, developing metrics, and connecting with end users. [Read more.](#)
- Prominent architects from Barcelona met at ASU with their Phoenix counterparts to compare strategies for urban sustainability in a desert environment. The exchange of ideas took place during "Phoenix-Barcelona: Cities in Transformation," a month-long symposium and exhibition hosted by ASU's Herberger Institute School of Design Innovation and School of Architecture + Landscape Architecture. It was follow-up to a 2008 event in Spain and was supported, in part, by the Ministry of Culture of Spain and several Barcelona studios. [Read more.](#)
- Tessa Causland, a senior life sciences major in the New College of Interdisciplinary Arts and Sciences, is planning a second trip to Africa working with Sustainable Resources, Ltd., a nonprofit that supports sustainable business and educational enterprises in developing countries. An aspiring doctor, Causland has visited Malawi, Zambia, Ghana, and Tanzania to research biodiesel options and demonstrate an ASU student-designed device for people with polio disabilities. [Read more.](#)

You can reach me at rob.melnick@asu.edu or 480-965-5233 with any questions or comments about this briefing. The interview with Dr. Boone follows on page two.

Best regards,



Rob Melnick
Executive Dean

cc: Jim Buizer

Q&A with Dr. Christopher Boone

applying urban ecosystems to improve lives

Dr. Boone is associate professor in the School of Human Evolution and Social Change and in the School of Sustainability, where he is also graduate chair. His extensive work in urban sustainability explores the relationships between cities and the natural environment to find ways that urban ecosystems can be strategically focused to reduce the negative effects of world poverty.

What triggered your focus on sustainability?

As a new graduate student in 1987, I read the United Nations report *Our Common Future* and recognized its ideas as a radical departure from the usual compromises between human development and the environment. Then, in the late 1990s, I had the opportunity to join the Baltimore Ecosystem Study, a large integrated project with a team of 50 scientists working to understand how a metropolitan area functions as an ecosystem. Through this work, we began to find ways to translate our science into actions that would ensure a prosperous, healthy, and meaningful future for all residents of the Chesapeake. My participation in the Central Arizona—Phoenix Long-Term Ecological Research project continues that work.

What are your most important sustainability-related research projects?

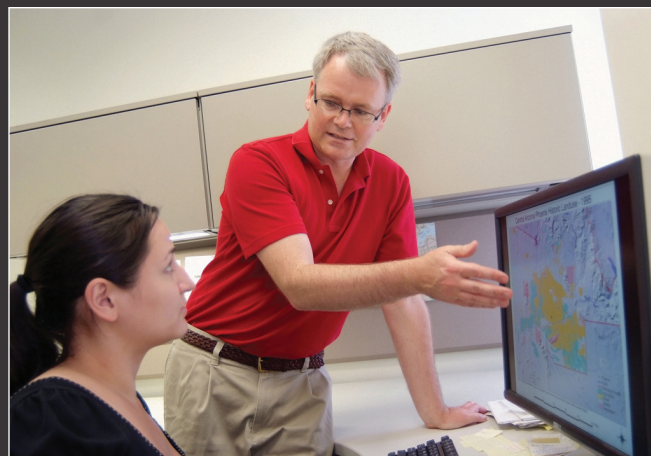
I am working on two related projects that examine how ecosystem services (the benefits of our natural environment such as clean water and air) are distributed in metropolitan areas. The first project looks at the environmental benefits and costs of planting and maintaining tree canopies in five U.S. cities: Phoenix, Los Angeles, Sacramento, Baltimore, and Miami. The second, a book project, surveys the uneven consequences of global environmental change on urban residents around the world. For both projects, the primary concern is assessing the environmental justice of ecosystem services — who gains most from the ecosystem services we develop and nurture in metropolitan areas and how these services could be more equitably distributed.

How will your sustainability-related research affect policy decisions in the “real world”?

Strategically provided ecosystem services can improve health and quality of life, make cities more livable, attract investment, and reduce operating costs to individuals and municipalities. Our research on urban tree canopies will provide decision-makers with information on best practices for managing ecosystem services, including benefit and cost trade-offs and how to reach the most vulnerable populations.

What is the world sustainability challenge that concerns you the most?

Grinding poverty undermines long-term environmental stewardship and the basic principles of justice that are fundamental to sustainability. We cannot achieve global sustainability while substantial numbers of people around the world try to subsist on less than a dollar a day.



Dr. Boone demonstrates the rapid expansion of urbanized areas in Phoenix and the resulting land use changes.



Carefully managed urban vegetation in the Phoenix area can increase water quality and reduce wastewater treatment costs.



This Baltimore-area urban tree canopy provides ecosystem services that can improve quality of life for vulnerable populations.