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**University of Illinois Scientists Study Effects of Fire Behavior
on Plants with IALC Grant**

August 8, 2003 – Phoenix, AZ – A grant from the International Arid Lands Consortium is enabling University of Illinois scientists to research the effects of fire behavior patterns on plants and other species.

Between 2000 and 2002, 295,364 wildfires burned in the United States, consuming a total of 18,930,732 acres, with estimated costs above \$3.4 billion for suppression. As of July 21, 2003, there have been 51 large fire incidents (wildfire of 100 acres or more occurring in timber, or wildfire of 300 acres or more occurring in grass/sage).

These wildfires alter landscapes in many ways, including creating new opportunities for the spread of invasive, or non-native plant species. Researchers, land managers, and others interested in fire prevention and post-fire land recovery seek information about the role of fire in enabling plant invasions, altered fire behavior patterns following plant invasion, the use of fire to control plant invasions, and background information on taxonomy, species distribution, basic biology and ecology, and management.

The IALC is contributing to this growing knowledge base by supporting research at the University of Illinois where scientists are investigating Ecosystem Fluxes in Great Basin Sagebrush and Post-Fire Communities. For over a century, sagebrush ecosystems of western Nevada have been aggressively invaded by cheatgrass (*Bromus tectorum* L.), a winter annual native of western Europe. A widespread transformation from diverse shrub-perennial grass steppe to annual grassland dominated by a single species is well underway, and this transformation may alter a myriad of ecosystem functions, affecting distribution of water and other physical resources over space and time.

The objective of the study is to quantify how the transition from perennial sagebrush vegetation to post-fire herbaceous communities, ultimately dominated by cheatgrass, affects ecosystem fluxes of carbon, water and energy. The researchers suspect that the post-fire dominance of cheatgrass arrests succession in the Great Basin sagebrush communities by redistributing physical resources in space and time. The research focuses on water because of its overriding control on reestablishment of native vegetation and other biogeochemical processes. A second research objective is to determine how different patterns of post-fire succession and management practices may affect these fluxes in the Great Basin Desert.

For more information about this project, see <http://ag.arizona.edu/cgi-bin/haseltin/ialc4.cgi?proj=02R-03>.

Support for this project came from the USDA Cooperative State Research, Education, and Extension Service.

Information for this article was obtained from the National Interagency Fire Agency:
<http://www.nifc.gov/>

More information about the interactions between fire and invasive, nonnative plant species can be found at the U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory Fire Effects Information System:
<http://www.fs.fed.us/database/feis/index.html>

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The International Arid Lands Consortium (IALC) is an independent nonprofit organization dedicated to exploring the problems and solutions unique to arid and semiarid regions. IALC promotes cooperative research and practical application of new knowledge to develop sustainable ecological practices. The member institutions share a mission to enable people of arid lands to improve the quality of life for future generations. IALC members include the University of Arizona, Desert Research Institute – Nevada, Higher Council for Science & Technology – Jordan, The University of Illinois, Jewish National Fund, Ministry of Agriculture and Land Reclamation – Egypt, New Mexico State University, South Dakota State University, and Texas A&M University-Kingsville.