Buffelgrass Summit Meeting

A Buffelgrass Summit is being organized to reach a shared understanding of the threats that this invasive species poses to our lands and our way of life, and to develop an action plan for buffelgrass control on public lands and right-of-ways. The Summit is being sponsored by Pima County, the City of Tucson, Pima Association of Governments, the Arizona-Sonora Desert Museum, the University of Arizona’s Desert Laboratory and Cooperative Extension, and the U.S. Geological Survey.

Through the Summit, the organizers and sponsors hope to initiate a process by which all members of our community (scientific, public and private sectors) can take an active role in protecting our communities against fire, preserving our desert landscape, and prolonging the economic and social benefits we draw from it. Timely execution of the Buffelgrass Action Plan produced through the Summit will help shape the future relationship between the urban and natural landscape in southern Arizona.

The Problem

Across southern Arizona, an invasive plant has introduced a new fire risk and threatens to irreversibly alter our desert. This invasive plant is buffelgrass (*Pennisetum ciliare*), a fire-prone and shrubby grass introduced from the African savannah. Buffelgrass grows in dense stands, crowds out native plants, and fuels unprecedented and devastating fires. Competition for water can weaken and kill desert plants, even larger trees and cacti, while dense roots and ground shading prevent germination of native seeds. Buffelgrass can kill or exclude most native plants by these means alone; wildfires will only hasten the process.

Cover Photo: Glyphosate application on Tumamoc Hill using backpack sprayers is an effective control method but is restricted to a short time window following the monsoon rains when the grass is green.

Tumamoc Hill, home of the University of Arizona’s Desert Laboratory, has been overrun by buffelgrass (tan color) in the last two decades. It has not burned yet, but native plants are already declining and dying from lack of water. Dense stands of buffelgrass leave little room for regeneration of native plants, be they spring wildflowers or young saguaros. Despite the occasional lightning strike, hill slopes like this have not experienced wildfires for centuries and even thousands of years. Without intervention and with or without fire, conversion of this hillside from saguaro-palo verde to grassland is only a matter of time.

In the past two years, buffelgrass invasion in the Southwest has been the subject of considerable outreach, extensive media coverage, and nearly unanimous consensus. Despite this increased awareness, the heroic efforts by a few volunteers,
and growing public agency engagement, control activities have not kept pace with buffelgrass spread. Because this spread is exponential—populations of this grass and the costs of controlling it may be doubling every year—time is of the essence and there is hope only if we act collaboratively and decisively.

**The Risks of Inaction**

Without concerted regional action, we face recurring grassland fires, loss of our existing natural desert environment, and damaging economic impacts.

**Increased Fire Risk**

Since the late 1950s almost 3 million acres of desert have been converted to buffelgrass pasture in the state of Sonora, Mexico. Buffelgrass has expanded from these pastures into surrounding natural and urban areas, and is now driving wildfires throughout most of the year. Fires occur almost daily along roadsides in Hermosillo, a city protected by only 37 firefighters. Given similarities in climate and vegetation, Tucson, Phoenix and other southern Arizona municipalities also will be challenged by more frequent and devastating fires in the near future. Since February 2004, when stands planted on the tailings of the Duval Mine near Green Valley caught fire, a spate of buffelgrass fires have plagued southern Arizona, including one in November 2005 that resulted in a Tucson fatality and another that charred a Phoenix city park.

In Tucson and Phoenix, urban fire departments traditionally fight few “brush fires” and are focused instead on house fires and paramedic response to 911 distress calls. Among other expected measures, adequate protection from buffelgrass fires will soon require:

- escalating fire department budgets
- retraining of firefighters to suppress spreading grass fires in urban and suburban areas, and along highways and roadsides
- rising fire insurance and suppression costs (more fire hydrants) for homeowners
- development of extensive firebreaks to keep ignition fronts in the desert from sweeping up the mountains to become forest fires
- aggressive public education and strict ordinances aimed to stem the rate of human ignitions and distribution of buffelgrass in natural as well as heavily populated areas (think Smokey Bear in the desert)

**Threats to Conservation Efforts**

Buffelgrass is an equal opportunity invader that respects no boundaries. It already compromises the integrity of several parks and monuments, and other publicly maintained open spaces devoted to Sonoran Desert conservation and ecological research. Imagine Saguaro National Park without saguaros, Picacho Peak State Park without wildflowers, or charred parklands in Phoenix’s mountain reserves (Papago, Piestewa Peaks, North and South Mountain). The Sonoran Desert Conservation Plan acknowledges buffelgrass and other invasive species as important threats to Pima County’s rich biodiversity. And clearly, buffelgrass invasion poses serious
threats to the 100-year legacies of ecological research carried out at the Desert Laboratory on Tumamoc Hill and the Santa Rita Experimental Range.

**Economic Impacts**

The tourism and hospitality industry, and its associated tax base, will suffer greatly if the buffelgrass invasion continues undeterred. As this water-guzzling, fire-prone grass colonizes rocky slopes, palo verde-saguaro communities that characterize our popular destinations and viewscapes will be converted into disturbed grassland. Fires are becoming prevalent during the mild tourist season when buffelgrass is chronically dry and flammable. Wildfires could disrupt some recreational activities for decades or more. Saguaro-studded sunsets and spring wildflower displays could become a thing of the past. Degradation of viewscapes and the prospect of frequent fires could also discourage businesses and private citizens from choosing southern Arizona as a permanent destination, further slowing economic growth.

Ectotourism is a cornerstone of the Tucson and Pima County economies. Places like the Arizona-Sonora Desert Museum, Saguaro National Park, Sabino Canyon, and Tucson Mountain Park attract tourists from around the world and also are visited repeatedly by local residents. According to the Metropolitan Tucson Convention and Visitors Bureau, and based on studies conducted by the University of Arizona, 3.5 million visitors pump $2 billion a year into Tucson’s economy, including $20 million of tax revenues for Tucson and Pima County. Tourism accounts for nearly 40,000 jobs, about 12 percent of total wages in Pima County.

**Call to Action: Summit Discussion Points and Working Groups**

The Buffelgrass Summit will solicit multi-agency cooperation, develop treatment strategies and schedules, and identify costs and sources of funding for comprehensive buffelgrass control on public lands and right-of-ways.

A two-phase action plan will be presented in the morning session.

**Phase One**

An initial eradication phase over the first five years will focus on eliminating large buffelgrass stands that now serve as the major seed sources for dispersal and spread. Primary buffelgrass sources must be treated and retreated to eliminate the seed bank.

**Phase Two**

Once the largest buffelgrass stands have been reduced, maintenance must be continued indefinitely. Annual maintenance costs should be limited, however, as seed sources along roadsides, public right-of-ways and public lands come under control.

Before the summit, working group leaders will be recruited to develop a draft of the Buffelgrass Action Plan. In the afternoon, working group sessions will focus on mapping, monitoring, coordination, and treatment priorities; developing ordinance language; building landscape contractor capacity; providing guidelines for landscaping contracts; resolving jurisdictional issues and entry permits through interagency governmental agreements; supporting grassroots efforts; and securing funding. As a participant in the Summit, you also will be asked to consider your role in supporting the Buffelgrass Action Plan and its future implementation.