Statement of
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U.S. Department of Agriculture
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Concerning

Losing Ground: the War on Buffelgrass in the Sonoran Desert

Chairman Grijalva, Ranking Member Bishop and members of the subcommittee, thank you for the opportunity to appear today to provide the Department's perspective on "Losing Ground: The War on Buffelgrass in the Sonoran Desert."

At the Forest Service, we are very concerned about the aggressive and persistent nature of invasive and noxious species colonizing National Forest System lands. We view the establishment of buffelgrass stands on National Forest System lands in Arizona as a direct conflict with the Forest Service mission "to sustain the health, diversity and productivity of the Nation's forests and grasslands to meet the needs of present and future generations". Indeed, the establishment of buffelgrass stands in the Sonoran Desert ecosystem has become a direct threat to the iconic saguaro cactus, one of the defining plants of the Sonoran Desert and a grand symbol of the American West.

Buffelgrass (*Pennisetum ciliare*) is an invasive grass species from Africa that threatens broad areas of the Sonoran Desert ecosystem through its expansion into southern Arizona and the State of Sonora in Mexico. Buffelgrass was first introduced into the United States in the 1930s as livestock forage and for soil stabilization purposes. Buffelgrass has invaded roadsides and other disturbed areas, and it also occupies relatively steep hillsides of the desert landscape. The threat from buffelgrass comes from its ability to outcompete native vegetation for water, nutrients, and sunlight, and its formation of dense buffelgrass stands that allow fires to spread over the landscape. The Sonoran Desert evolved without fire and most of its native plants such as the saguaro cactus (*Carnegiea gigantea*) are fire intolerant. Nearly all of a native plant community can be destroyed by a single buffelgrass fire. Since buffelgrass is fire adapted, it reestablishes in these burned areas and effectively becomes the dominant species. There is a concern that a cold-tolerant buffelgrass cultivar newly developed and recently released for use for forage will allow the invasive species to grow at higher elevations and extend its range further northward thereby increasing the potential for buffelgrass invasion and ecosystem degradation.

Although buffelgrass is possibly the greatest current threat to the Sonoran Desert ecosystem, it is only one of a number of invasive species that can impact the desert. Invasive species such as the

cactus moth (*Cactoblastis cactorum*), sweet resinbush (*Euryops subcarnosus*), and fountain grass (*Pennisetum setaceum*) also threaten the Sonoran Desert. Red brome (*Bromus rubens*) is another invasive grass that has converted large areas of native desert vegetation on alluvial fans or outwash plains locally known as bajadas in the upper Sonoran Desert through the introduction of a fire cycle.

Complete eradication of buffelgrass in the Sonoran Desert is no longer feasible due to the extensive spread of buffelgrass over the landscape. There is still a lack of knowledge on cost effective techniques to control buffelgrass over a broad-scale desert environment as outlined in USDA's principles for integrated pest management. A particular need is for comprehensive research to evaluate effective combinations of mechanical and herbicide treatments that will control buffelgrass in desert conditions. Although small scale efforts involving volunteers have been successful in reducing localized buffelgrass populations on a short-term basis, there is less understanding of the costs and effectiveness of treatment options that could be accomplished on a larger scale. In the long term, there is a need to evaluate the feasibility of biological controls, such as insects or fungi, which would suppress or slow the spread of buffelgrass within the Sonoran Desert ecosystem. The Forest Service's Research and Development branch could play a role in developing these technologies.

Both the Coronado National Forest and the Tonto National Forest have been infested by buffelgrass. In particular, the Santa Catalina Ranger District on the Coronado National Forest is heavily infested with about 3,000 acres of relatively dense buffelgrass along the southwestern foothills of the Santa Catalina Mountains near Tucson. These foothills have patches of buffelgrass of about two acres in size that serve as a highly flammable fuel that threatens populations of the unique saguaro cactus within the Pusch Ridge Wilderness and homes in the wildland-urban interface bordering the Forest. New stands of buffelgrass are being established within the Forest through transportation of seed by vehicles, wind, and animals. The Nogales Ranger District (Coronado National Forest) in southernmost Arizona has isolated populations of buffelgrass that have been introduced in part by extensive human activities along the U.S.-Mexico border. As a consequence of buffelgrass seed being transported by these various mechanisms, existing populations of buffelgrass on the Forest are expected to continue to spread. Once treated buffelgrass stands need to be monitored and re-treated as necessary for several years.

Since buffelgrass was first detected on the Santa Catalina Ranger District near Tucson in 1969, the Coronado National Forest has conducted activities to control it including one-time events for community service by local service organizations such as Eagle Scouts and schools. The Forest sponsors ongoing annual events such as "Beat Back Buffelgrass Day" and "National Public Lands Day." Community interest and involvement have been high and targets for buffelgrass removal have been exceeded each year. The Forest also uses crews from the Arizona State Department of Forestry to grub buffelgrass at mid-elevations along the Mount Lemmon Highway to minimize a fire hazard along the road. Follow-up treatment must be done periodically to keep the highway free of buffelgrass.

Along with other concerned organizations, the Coronado National Forest participated in the Buffelgrass Summit that was held in Tucson in February, 2007. Forest personnel were also

involved in the formation of a Buffelgrass Working Group and subsequent development of the Southern Arizona Buffelgrass Strategic Plan. This plan led to the establishment of the Southern Arizona Buffelgrass Coordination Center (SABCC). The purpose of the SABCC is to serve as a regional information center on buffelgrass that emphasizes an integrated management approach to control this invasive species. The center is supported by organizations and agencies concerned with buffelgrass management in southern Arizona including the Forest Service.

Buffelgrass is also found on the Tonto National Forest in central Arizona with infestations occurring on four of its six Ranger Districts. Most infestations on the Forest have not been mapped, but buffelgrass plants are scattered over thousands of acres on the Forest. If left untreated, these small infestations are expected to become denser over time and cause problems similar to other areas with heavy buffelgrass populations such as the Santa Catalina District of the Coronado National Forest. Control is time consuming and expensive. The noxious weed coordinator of the Tonto National Forest devotes at least half of her time to buffelgrass control together with help from volunteers. However, new infestations are occurring in remote areas on the Tonto National Forest at such a rate that mapping or controlling the spread is not feasible at this time.

Buffelgrass is now common throughout the greater Phoenix and Tucson metroplex, and the urban ecosystem can serve as a major source of seed. This invasive grass grows along urban, suburban and rural streets and roads and populates parks, yards of residences and industrial areas, which are sometimes not in the forefront of control efforts. The Arizona Legislature has enacted a series of statutes to address, prohibit and control the impact of all invasive and noxious species in Arizona and has identified the Arizona Department of Agriculture and the Arizona Department of Transportation as leads for prohibition, eradication and control.

In general, people within the metro area are unaware of the potential for buffelgrass to impact wildland areas. Although a volunteer organization (the Phoenix Weedwackers) does exist to remove buffelgrass in mountain preserves of Phoenix, the city itself does not currently have a specific program for buffelgrass control. Northward-bound traffic from the city continuously brings buffelgrass seed onto the Tonto National Forest. Buffelgrass has moved onto the Forest from access roads originating from Interstate Highway 17 and from highway road corridors that cross the Forest including U.S. 60 and State Highways 87, 88, and 188. The Forest is working closely with the Arizona Department of Transportation to control new infestations that occur along the highways during construction projects.

The Forest Service is committed to working with agencies, educational institutions, community service organizations, local fire departments, and other entities in preventing and controlling buffelgrass. This includes coordinating with the Southern Arizona Buffelgrass Coordination Center on a wide array of projects and activities. The Forest Service is currently involved with several multiagency projects at a regional level to increase knowledge of buffelgrass expansion and management. In November 2008, the Forest Service and National Park Service jointly conducted an aerial survey of the Coronado National Forest and Saguaro National Park to map buffelgrass infestations on these public lands. The Forest Service recently provided FY 2010 funding to the University of Arizona to investigate the effectiveness of several herbicides on buffelgrass under the (U.S. Forest Service) State and Private Forestry – Forest Service Pesticide

Impact Analysis Program (FSPIAP). The Forest Service is also part of a multiagency project to test the feasibility of using helicopters in the Sonoran Desert to apply glyphosate herbicide at application rates that can control buffelgrass while minimizing damage to native vegetation. The project is based on the need to develop a technology that can handle buffelgrass infestations in remote, inaccessible areas or areas with steep, rocky terrain that do not allow control by manual methods or ground application of herbicide. Testing with the herbicide by helicopter application will be conducted on 12 acres of public land owned by Pima County during the summer of 2010. The project is jointly sponsored by Pima County, City of Tucson, Forest Service, National Park Service, Bureau of Land Management, and the University of Arizona.

The Forest Service has an active and vibrant program to address invasive species on National Forest System lands and to assist in partnerships for all lands. We are committed to work to restore and maintain forest ecosystem health using the best available science and technologies to accomplish this goal of the Secretary. Mr. Chairman, Ranking Member Bishop, this concludes my prepared statement. I am pleased to answer any questions you may have.