Fountaingrass (*Pennisetum setaceum*)

- about invaders program
- project species
- become a citizen scientist
- related links
- glossary
- other asdm invasive species projects
- contact us
- login/logout

What is it?

Photo: Mark Dimmitt

Fountaingrass is an attractive, robust clumping grass that grows up to 3 ft tall and wide. Its long, wiry leaves are 11 to 30 in long from the base and form dense, light green clumps in summer. Together the old whitish and the new purplish inflorescences form a halo above the green leafy core. The cylindrical inflorescences are thick, 4 to 14 in long, round in cross-section, pink, or purplish during colder weather, and dry white. Soft silky hairs to over an inch long surround the fruits. This grass is most vigorous in the warm season (July-September), but also flowers most of the year below 3000 feet in our region. It appears to be somewhat more cold tolerant than buffelgrass (*Pennisetum ciliare*) as it reaches 4800 feet elevation in the Santa Catalina Mountains (650 feet higher than buffelgrass).

Buffelgrass is another introduced African grass in the genus *Pennisetum*, which is also a serious invasive species in the Sonoran Desert Region. It differs from fountaingrass in its smaller size (1 to 1.5 ft tall), branched stems, broad leaves and shorter (1.5 to 5 in long) fat, brown to purplish cylindrical inflorescences growing from nodes along the stems. Above 4000 feet, bullgrass (*Muhlenbergia emersleyi*) is a 3 ft tall, clumping native species that resembles fountaingrass. Its numerous small seeds with long (0.5 in) purplish bristles form loose, flattened, nodding banners that are unlike the cylindrical inflorescences of fountaingrass.

Photos: Mark Dimmitt

Why is it a Threat?

Fountaingrass is a large grass that produces lots of seeds that spreads rapidly from cultivation into nearby disturbed areas, and eventually into natural habitats. It often forms dense stands and aggressively competes with native species, especially perennial grasses and seasonal annuals, for space, water, and nutrients.

Fountaingrass provides lots of fuel, and is well adapted to fire. In Hawaii , fountaingrass fires are a serious threat to the native species. After burns, it regrows rapidly from extensive roots. In contrast, fire is not an ecological process in the Sonoran Desert or tropical communities to the south, and native trees, shrubs, and succulents are decimated by fire. In the Arizona Upland, grasses often dominate roadsides and fires are more frequent than in undisturbed habitats. Grasses that commonly occur with fountaingrass on roadsides include the native cane beardgrass (*Bothriochloa barbinodis*), plains bristlegrass (*Setaria macrostachya*), purple threeawn (*Aristida purpurea*) , spike pappusgrass (*Pappophorum vaginatum*), tanglehead (*Heteropogon contortus*) , the non-native barley (*Hordeum murinum*) , Bermuda grass (*Cynodon dactylon*) , Lehmann lovegrass (*Eragrostis lehmanniana*), Natalgrass (*Melinis repens*), red brome (*Bromus rubens*), and wild oats (*Avena fatua*).

Threats from fountaingrass fires are most serious in natural riparian habitats in scenic mountain canyons. In the Tucson area, it has invaded the rocky canyons in Finger Rock, Pima, Sabino, and other Canyons in the Santa Catalina Mountains and King Canyon in the Tucson Mountains . Fountaingrass is less of a threat in desert grassland or chaparral above 3500 feet where fire is a natural process.

It has been declared as a state noxious weed by Hawaii and Nevada .

Distribution

Fountaingrass is native to North Africa and the Middle East . It has been widely cultivated as an ornamental around the world and often escapes into natural habitats. In the United States, it is common in southern Arizona, southern California, southern Nevada, southwestern Utah, and Hawaii . It has also been found in Florida, Louisiana, Tennessee, Oregon, Colorado, and Texas .

In Arizona it is widespread in the Phoenix, Tucson, Ajo, and Gila Bend areas in Maricopa

and Pima counties. It is also common along the Colorado River from Lake Mead to Parker in Mohave and La Paz counties. A few plants have been found in Cochise, Gila, Pinal, Santa Cruz , and Yavapai counties. In the Mexican portion of the Sonoran Desert Region, it is only beginning to escape cultivation in Alamos, Kino Bay, and Magdalena (Sonora), near Ensenada (Baja California), and Mulegé (Baja California Sur).

Habitat

Fountaingrass mostly occurs on disturbed roadsides, rocky outcrops, canyons, and cliffs from 2000 to 3500 feet in the Sonoran Desert Region in Arizona . It is most common in riparian habitats within paloverde-saguaro desertscrub in the Arizona Upland Sonoran Desert . It is less common in the Lower Colorado River Valley desertscrub down to about 985 feet, and in chaparral, desert grassland, and oak woodland up to 4800 feet. On the north side of Tucson, it replaces buffelgrass on roadsides and rocky road cuts.

Fountaingrass invading a suburban roadside. Photo: Mark Dimmitt

It is also common in another riparian habitat on flood lines and rocky shores of reservoirs and rivers in low-elevation (400 to 1200 feet) Mohave and Sonoran desertscrub. It is common from Lake Mead to Parker along the Colorado River in some very hot, dry areas.

History

Although fountaingrass was reported in Hawaii as early as 1914, it was first collected on roadsides in Arizona in the Santa Catalina Mountains (4500 ft elevation) and in Ajo in 1940. It was used in urban landscapes in Tucson as early as 1940, and cultivated in the Soil Conservation Nursery (now National Resource Conservation Service) in 1941. It was well established in the Santa Catalina Mountains by the 1940's and the Phoenix area by 1962. Later specimens were collected in now-protected natural areas in the Tucson area including Tumamoc Hill (1968), the Arizona-Sonora Desert Museum (1966), and King Canyon (1988) in the Tucson Mountains, and Sabino Canyon (1974) in the Santa Catalina Mountains. Like buffelgrass, it has expanded dramatically in many areas since 1990.

What can be Done

Poorly-maintained nurseries can be sources of new invasive weeds. Fountaingrass in this nursery is in seed and can soon invade surrounding land.

Fountaingrass can be controlled by physically removing the entire plant, including the seed-bearing inflorescences. Seedlings and small plants can easily be pulled by hand. Iron digging bars or shovels will help extract larger plants. It may be necessary to return to controlled areas for several years to remove seedlings. Chemical treatments with systemic herbicides may be needed to control large infestations. Herbicides have been sprayed from boats to control fountaingrass along rocky shorelines of Colorado River reservoirs.

There are alternatives for fountaingrass in urban landscapes. Bronzeleaf fountaingrass (var. *cupreum*) is a genetically-modified sterile cultivar that can be planted instead of the normal plants. Native grasses that resemble fountaingrass but are not invasive include bullgrass and deergrass (*Muhlenbergia rigens*). Beargrass (*Nolina microcarpa*) and desert spoon (or *sotol, Dasylirion wheeleri*) are native succulents that grow in large clumps that are attractive in desert gardens and road medians.

Links

California Exotic Pest Plant Council

Pima County Exotic Species Council

National Resource Conservation Service, National Plant Data Center , USDA. 2004. The PLANTS Database, Version 3.5

Plant Conservation Alliance, Alien Plant Working Group

References

Tellman, Barbara (ed.) 2002. Invasive Exotic Species in the Sonoran Desert . University of Arizona Press.

Source: Arizona-Sonora Desert Museum. 2012. Fountaingrass (Pennisetum setaceum). Available at http://www.desertmuseum.org/invaders/invaders_fountaingrass.php