Species Management Plan
Exotic Grasses with Origins in Africa
Lehmann Lovegrass *(Eragrostis lehmanniana)*

Life History/ Identification: *(Eragrostis lehmanniana):* Lehmann lovegrass is a warm season perennial bunchgrass. It grows to a height 1 1/2 to 2 feet. The plant forms a compact crown with numerous stem bases. Most stems remain upright but some become procumbent and can root at the nodes. This makes it difficult to distinguish individual plants in dense stands. Reproduction is by seeds or by stolons. The plants produce many seeds, which are dormant after they fall from the plant. Seeds sprout after the dormancy period of 6 to 9 months or can sprout in less time if scarified by heat. Heat scarification can occur after a fire or from hot desert heat.

Lehmann lovegrass was first introduced to the southwest for range restoration. Thousands of acres were initially planted in the 1930's but the species did not persist in many areas. It has a narrow ecological tolerance. (FEIS Database) In southeast Arizona the species grows at elevations of 3000 feet to 4500 feet on sandy to loamy soils. In these areas the nighttime temperature rarely drops below 32 degrees Fahrenheit and summer rainfall is from 6 to 8.5 inches. Lehmann lovegrass provides forage for domestic animals on ranges in Southeast Arizona and other areas where its narrow ecological tolerance can be met. The species provides forage for animals in the spring before many native grasses are available for use. One suggestion for grazing recommends planting Lehmann lovegrass for use as spring forage and deferring use of native grasses until the dry summer months. Lehmann lovegrass is used in some areas for erosion control in such areas as roadsides and disturbed area

Status:
Lehmann lovegrass is not listed on the Noxious Weed List for the Coconino, Kaibab and Prescott National Forests. It is not on the State of Arizona or Federal List of Noxious Weeds. Lehmann lovegrass is included in the SWEMP database and is included on the Bureau of Land Management List of Invasive Species of Concern.
Known Locations: Look in SWEMP

Impacts:

Lehmann lovegrass *(Eragrostis lehmanniana)* quickly reseeds itself after disturbance. It is very competitive and can replace native species through plant competition over a fewl growing seasons. The species provides good forage for cattle in the winter and early spring months but becomes unpalatable in the summer months. Desert and grassland birds are less abundant in Lehmann lovegrass areas than in the native plant communities they often replace.

Fire intensity in stands of Lehmann lovegrass can be very high. Most native desert plants and soil cryptogams are not adapted to intense fires. Wildfires in native ecosystems not adapted to fire can alter the fire regime and species composition of the ecosystem. Species such as Lehmann lovegrass can burn with more intensity and frequency than the

native plants. Over time this leads to displacement of the native species unable to adapt to the new fire regime. Lehmann's lovegrass regenerates well after fires. Some regeneration from stolons occurs. Lehmann's lovegrass is a soil banking species. Numerous seeds are stored in the soil. After a fire, seedling establishment can be abundant and the number of Lehman lovegrass plants can actually increase.

There are at least two other perennial lovegrasses used in range management in Arizona. These are Weeping lovegrass *(Eragrostis curvula var. curvula)* and Boer lovegrass *(E. curvula var. conferta)*. No data were found that indicated these species were invasive in nature. Weeping lovegrass planted in areas adjacent to native grasslands did not invade the habitat of the native species. (FEIS) Weeping lovegrass does not reproduce by stolons or rhizomes as does Lehmann lovegrass. Seed from weeping lovegrass needs a dormancy period of 5 to 6 months and apparently does not benefit from heat scarification. Although these species are not as invasive as Lehmann lovegrass, they probably do increase fire danger in areas where they grow. The two species have been used to replace native plant communities for the purpose of forage production. The use of native species for this purpose would decrease the possibility of displacement of native plants and animals.

Control:

1. **Cultural Control:**

Prevention of more introductions of Lehmann lovegrass into native ecosystems will help control it. This species provides forage for domestic animals in arid areas where forage production is limited due to weather and other environmental factors. However, the replacement of native species through plant competition and increased fire risk and frequency should be considered. Native plants should be utilized for forage where possible.

Weather conditions and a narrow range of ecological tolerance will probably help control Lehmann lovegrass at higher elevations of the Coconino, Kaibab and Prescott National Forest. The species probably will not persist in most areas. However, areas such as the Verde Valley could be at risk for infestation. Several species of exotic lovegrass including the three mentioned above are intolerant of low nighttime temperatures. This will prevent them from growing in the higher elevations of Northern Arizona but these species could survive in areas such as the Beaver Creek and Verde Ranger Districts.

Seed Mixes for revegetation projects used on Forest Lands should be reviewed to ensure that they do not include Lehmann lovegrass. This includes projects done by other agencies including Arizona Department of Transportation and county road crews. Planting Lehmann lovegrass along roadways could increase the risk of a fire starting along the roadway. Fires started in roadside vegetation often spread into surrounding Forest Lands. Since Lehmann lovegrass is a palatable species, planting it along road edges could lead to an increase in vehicle-animal collisions.

Education is an important factor in controlling this species and its effects on the environment. Planting of this species for forage is still encouraged in some references with no mention made of its ecological implications.

2. Mechanical Control of any species would be labor intensive. No data was found specifically relating to control of Lehmann lovegrass by mechanical or chemical means. Chopping or mowing would not be effective. The three lovegrasses mentioned above were introduced and are still favored by range managers for their resilience to grazing. Chopping and mowing would probably do nothing more than mimic a grazing animal.

3. Chemical Control: *Noted here are chemical control techniques in use in other areas. Always check with weed specialists or chemical suppliers to ensure correct dosage and application. Mention of these products does not imply endorsement by the Northern Arizona Weed Council, San Francisco Peaks Weed Management Area, the USDA Forest Service, nor the Nature Conservancy. Currently the use of herbicides is not allowed on lands administered by the Coconino, Kaibab and Prescott National Forests. Always check with your local land manager before using herbicides on public lands.*

No specific information on control of Lehmann lovegrass using herbicide. A broad-spectrum herbicide or one designed specifically for grasses or monocots would probably control this species. However, spraying an area infested with Lehmann lovegrass would probably require widespread spraying which is undesirable and would damage other plants, especially native grasses in the area.

References:

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