MUSY - Forage

Considering the “Parts” and the “Whole”

Kentucky Bluegrass

Kentucky bluegrass is a non-native grass but dominant on the Preserve. It provides palatable and nutritious forage for both cattle and elk especially in the spring and early summer. Kentucky bluegrass is resistant to damage from grazing because its growing points remain below ground throughout the growing season. The presence of Kentucky bluegrass as a dominant species is an indicator of past overgrazing.

The Trust will be considering alternatives for the allocation and use of the Preserve’s forage resources. In this analysis the Trust will consider individual plants as well as entire ecosystems – the *parts* and the *whole*.

Some plants are preferred as forage by grazing animals and grazing preferences vary throughout the year. In addition, different plants may respond differently to grazing pressure. To effectively allocate forage and manage its use, the Trust must consider the *composition* of the Preserve’s forage base.

An ecosystem is made up of the complex of a community of organisms and environment, functioning as an ecological unit . An action that affects any *part* of the ecosystem can also affect the *whole*.

The Trust will consider the direct effects, as well as the indirect (those that occur at a different place or time), and cumulative (the combined or additive effect of one or more actions) effects, of the proposed stewardship action and any alternative action considered.

Thurber’s Fescue

Although not highly palatable, *Thurber’s fescue* due to its sheer abundance, contributes significantly to the forage resource of many mountain bunchgrass communities The nutritional quality of Thurber’s fescue is moderately high. Thurber’s fescue is sensitive to heavy grazing and has been largely eliminated from many sites it once occupied. Plants produce little regrowth if grazed past the vegetative stage. On the Preserve, past overgrazing of Thurber’s fescue likely contributed to the expansion of Kentucky bluegrass.

Arizona Fescue

Arizona fescue, native to the Preserve, is a cool season , long-lived, perennial bunchgrass. The majority of its growth occurs during the rainy season. It is intolerant of heavy grazing, but tolerant of light to moderate grazing. Arizona fescue’s sensitivity to grazing makes it a good indicator of improper grazing management.

Over Grazing Near Streams
- Erodes streambanks
- Reduces shade
- Increases runoff
- Reduces infiltration

Erodes Streambanks
- Increases width-to-depth ratio
- Increases sediment into streams

Reduces Shade
- Increases temperatures
- Increases temperatures
- Increases photosynthesis

Increased Runoff Reduced Infiltration
- Reduces capacity to store water
- Reduces forage productivity/sustainability

The direct, indirect, and cumulative effects of *over* grazing in and near riparian areas can combine to impact wildlife habitat, fisheries, forage production, as well as recreation and aesthetic resources.

Tufted Hairgrass

Tufted hairgrass provides good to excellent forage for all classes of livestock Tufted hairgrass decreases with excessive grazing but is is tolerant of moderate amounts of fairly close grazing because of dense growth and tillering. Grazing practices should allow for ample seedset to maintain an abundance of this species.