Range Health: Dynamic Soil Properties.

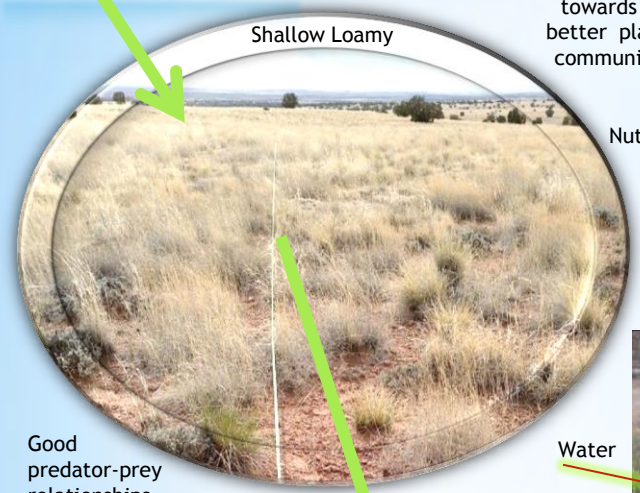
"Root biomass and health is a direct reflection of above ground biomass and health and critical for healthy soil biology"

Management: Short-duration, high intensity, low impact use.

Superior use of Photosynthesis

Trending towards a better plant community

Shallow Loamy



Increased Nutrient cycling

Improving soil carbon

Decreased Runoff

Good predator-prey relationships

Cooler soil temperatures

Improved habitat for soil biota

Increased biodiversity

Increased productivity of soil glues and Glomalin by soil biota

Water stable aggregates

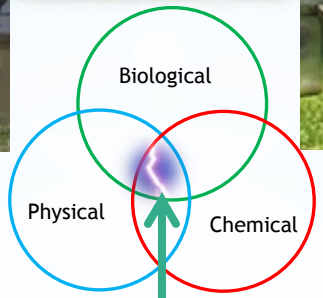
Moderate to very good infiltration.

Ref: Burleigh SWCD- Soil health http://bcscd.com/?id=23

Rainfall Simulator

Water

Water



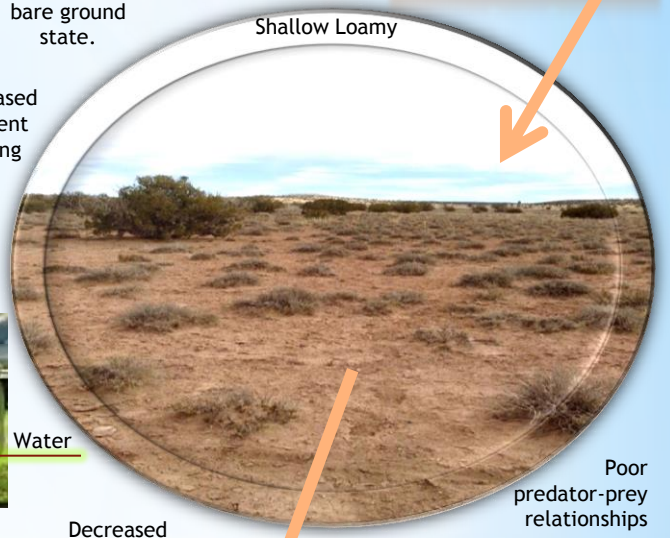
"Management must be your goal."

Management: Continuous summer grazing .

Trending towards a bare ground state.

Minimal use of Photosynthesis

Shallow Loamy



Decreased Nutrient cycling

Depleted soil carbon

Increased Runoff

Poor predator-prey relationships

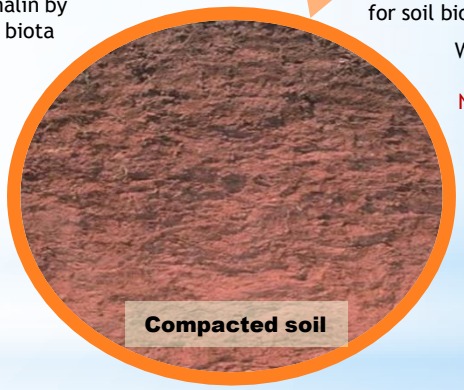
Higher soil temperatures

Decreased biodiversity

Minimal production of soil glues and Glomalin by soil biota

Poor habitat for soil biota

Slow to very_slow infiltration.



Weak aggregation or compacted

Not Water Stable

USDA

Take this to the next state:

- ✓ Adaptive Grazing Management.
- ✓ Incorporate cool & warm season plants.
- ✓ Additional fencing for new smaller pastures.
- ✓ Practices that improve hydrology.
- ✓ Short duration grazing & longer recovery.
- ✓ Increase stocking density/high intensity.
- ✓ Continue the paradigm shift.

Five Soil Health Principles

* Plant Diversity
* Cover The Soil
* Less soil disturbance
* Living roots year around
* Livestock integration/Adaptive grazing Mgt, /rest/recovery

Stop the degradation or improve this state:

- ➢ Improve relationship between grazing and root growth.
- ➢ Re-seeding of cool & warm season plants/grass.
- ➢ Utilize herding techniques through pastures.
- ➢ Update existing or expand watering facilities.
- ➢ Transitioning will take time, experience, patience.
- ➢ Start with the end in mind (paradigm shift)

USDA is an equal opportunity provider and employer.

Agronomy Tech Note 76: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/nm/technical/?cid=nrcs144p2_068965

Clarence Chavez: June 2014