Resilience For All
RMLUI 2015

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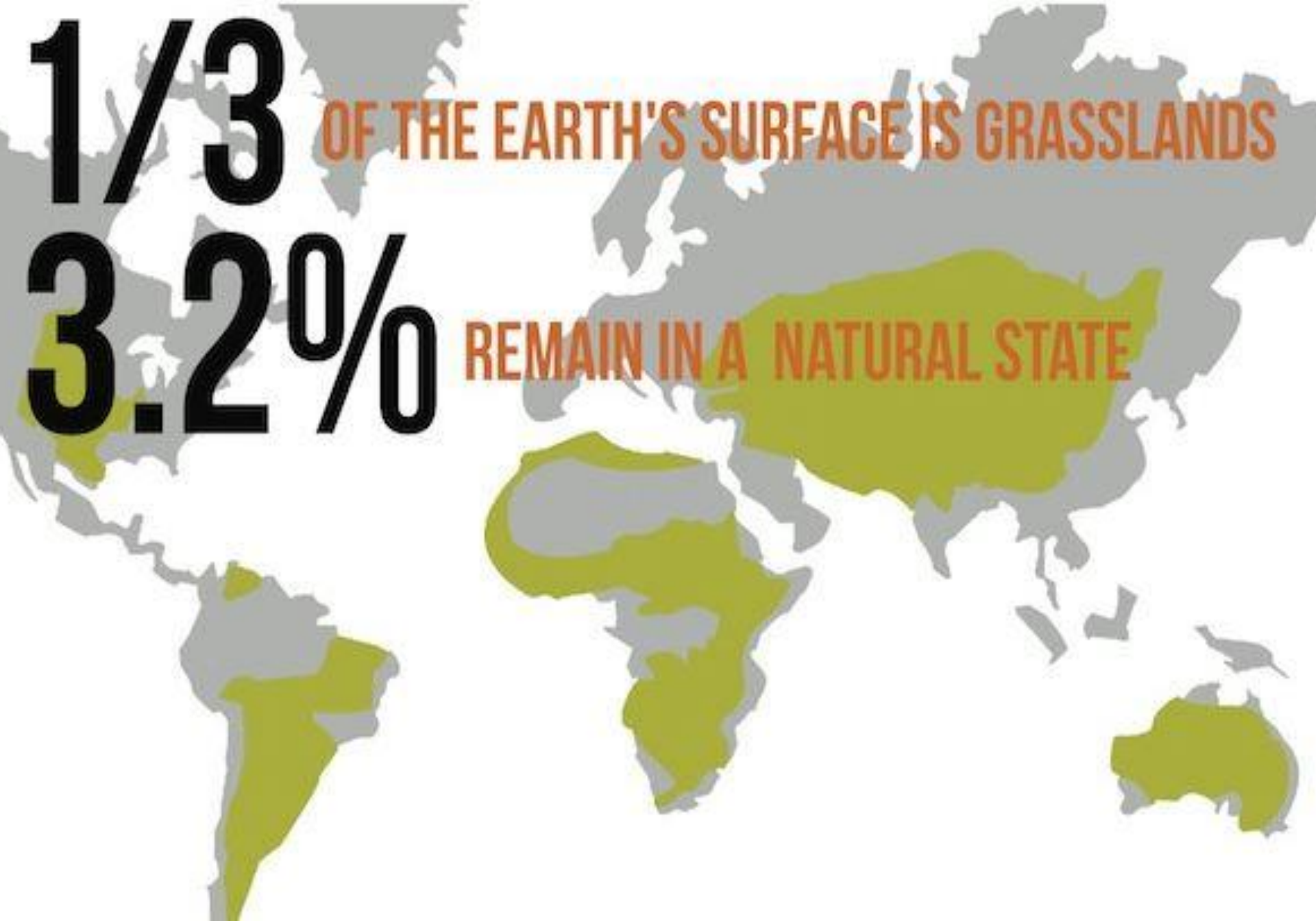
Jeff Su – CEO
jsu@plainscenter.org


1/3
OF THE EARTH'S SURFACE IS GRASSLANDS
3.2%
REMAIN IN A NATURAL STATE

Importance of Grasslands

- Worldwide 800 M people depend on Grasslands for livelihood
- Agriculture is 3rd largest Economy in Colorado, and 75% of Agriculture is Ranching
- 1/3 of Colorado's Counties are dependent on Ranching

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Loss of Grasslands in Colorado

- Between 1997-2002 1.26 million agriculture acres lost, 690 acres a day and will lose another 3.1 million by 2022
- Ex-Urban housing development 3x greater than population growth, and 7x greater than urban and suburban areas.

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Loss of Grasslands in Colorado

- Increasing land value and decreasing ranch profitability
- In 2002, 60% of Colorado's farms and ranches had total annual sales of less than $10,000.
- In 2002, average age of Ranchers was 55

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Loss of Grasslands

- Maintaining resilient grasslands is key to keeping ranching profitable and resiliency of these communities worldwide
- Worldwide loss of grasslands leads to increased floods, climate change, poverty and famine.

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What kind of resiliency?

- Maintaining Grassland resources is a centuries old problem
  - Tragedy of the commons 1833
- Spectrum of responses from no regulation (overgrazing) to over regulation (no grazing)
  - Both lead to grassland degradation

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Ecological vs. Engineering resilience (C.S. Holling)

- Ecological change is not continuous and gradual
- Spatial attributes not uniform
- Ecosystems have multiple equilibrium

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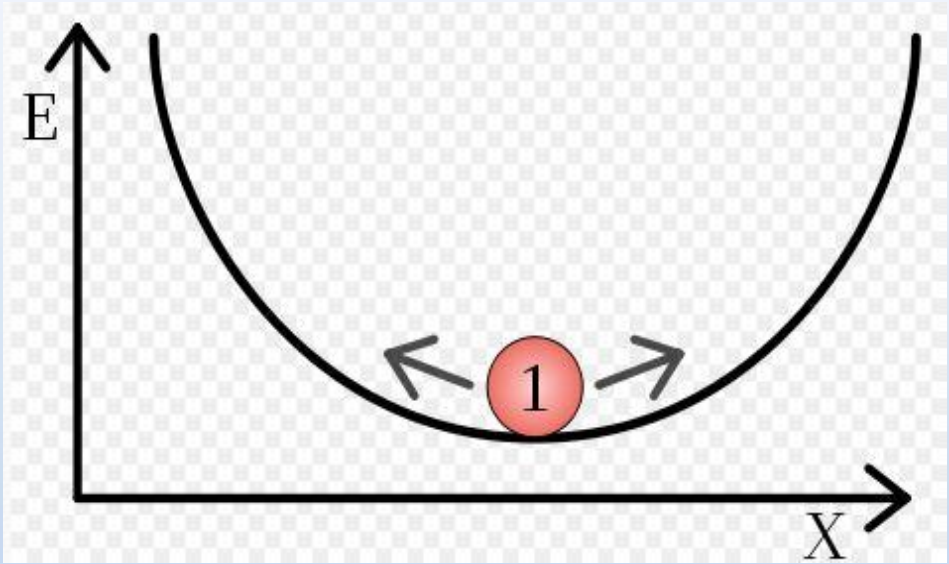
Engineering Resilience

- Stability near an equilibrium
- Maintain optimum performance, efficiency of function



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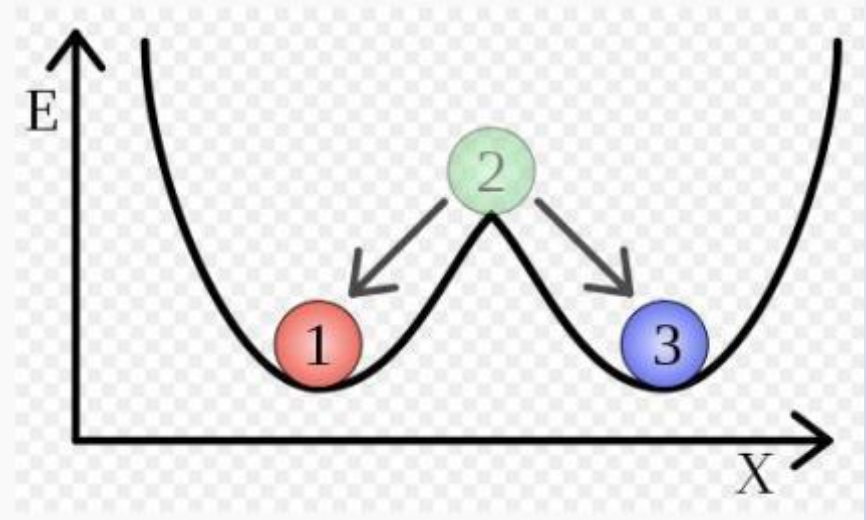
Ecological Resilience

- Maintaining multiple equilibrium
- Maintaining existence of a function



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Ecological Resilience in Grasslands

- Grass species evolved to withstand two main disturbances
  - Intensive periodic grazing with fluctuating numbers
  - Drought
- Replacing natural grazing patterns with constant grazing by uniform numbers
  - Loose drought tolerant species
  - Water retention and soil health

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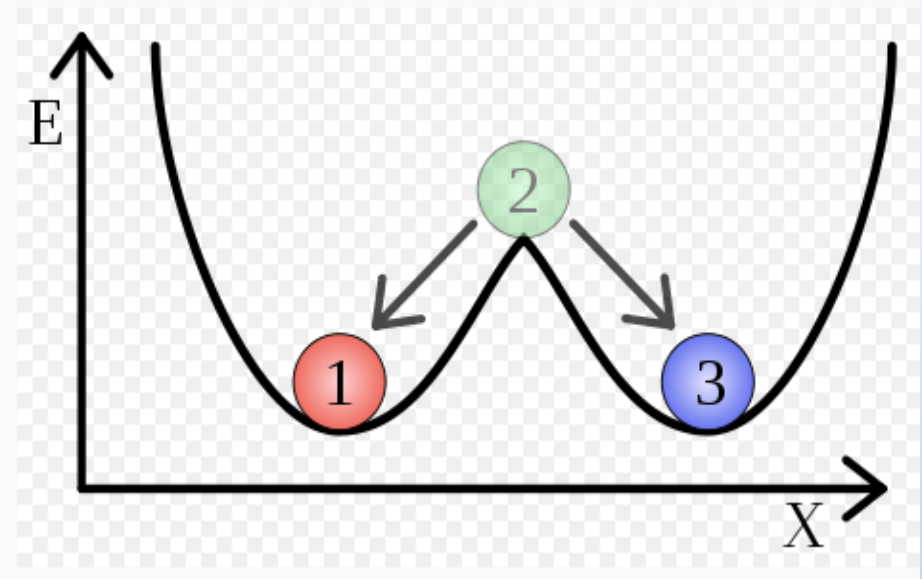
Which Type of Resilience?

- Policy and management tend to focus on Engineering Resilience
- Management for short term control, efficiency leads to system collapse



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Holistic Management

- Holistic decision making and planning framework for complex, multi-equilibrium systems developed by Allan Savory
- Applied to grasslands it offers comprehensive solution to achieve triple bottom line successes
- Currently 40 M acres managed holistically worldwide

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SIZINDA MAP
N
MONDE
DISTRIBU
G
A
B
C
D
E
F
GRAVES
CROP - fields
Homesteads
School
Borehole
Water-point
Spring
road
Grazing Area
Garden
road
Shops

Savory Hub Network

- 100 Savory Hubs influencing 1 billion HA of land by 2025
- Influence 1/5 of the world's grasslands

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PCC West Bijou Site

- 9,000 acre
- 1 hour East of Denver, South of Strasburg
- Heart of next wave of exurban development
- Demonstration site for Holistic Management

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