September 13, 2016, 2:00PM

Written Testimony – by Byron Shelton, Savory Institute
Congressional Hearing "21st Century Conservation Practices"
Committee on Oversight and Government Reform, Subcommittee on the Interior
Room 2154, Rayburn House Office Building, Washington DC

Honorable House members. Thank you for taking the time to hear some of the "21st Century Conservation Practices" of land management applicable for both federal and private lands and specifically related to grazing.

My name is Byron Shelton. I am the Senior Program Director for Savory Institute based in Colorado. The Savory Institute is named for Allan Savory, a scientist, ecologist, farmer, and rancher from Zimbabwe and the United States who has worked tirelessly over the last 60 years to understand and train others on how to manage land and resources regeneratively. This includes increasing biodiversity of plant and animal life, increasing water holding capacity of the soil, increasing soil building capacity, increasing soil carbon sequestration and nutrient cycling, and increasing capture of solar energy flow.

This effort by Allan has resulted in a management process that has come to be called Holistic Management. Managing holistically, as successful management has to do, considers the whole or big picture including economic, environmental, and social ramifications simultaneously. Otherwise we end up taking actions that have many unintended consequences. The actions might be environmentally sound but not economically sound or visa versa and may not meet the needs of the people involved.

Savory Institute was formed to promote the large-scale restoration of the world's grasslands, which include the croplands of the world, as most crops are grown on soil created by productive grasslands. Grasslands are extremely important, as they comprise 1/3 of the world's land surface, 70% of which are in degraded form. That means grasslands are losing plant and animal biodiversity, soil structure, soil carbon, and water holding capacity leading to more severe droughts and flooding and soil loss.

Savory Institute has approximately 30 regional entrepreneurial for-profit and non-profit hubs or training centers around the world. These hubs include demonstration sites and trained Savory Institute Accredited Professionals to leverage spreading the knowledge of how to improve our resources through management. They focus on getting results on the land. Currently over 40 million acres around the world are being managed holistically. We are actively working to increase the number of training centers to 100 by 2025. With functioning ecosystem processes water, food, and security are tremendously increased for people around the world.

Holistic Planned Grazing is one of our important planning procedures. This procedure is used to manage livestock for land health and improvement vs. land degradation. We also use other planning procedures including Holistic Financial Planning, Holistic Land or Infrastructure Planning, and Holistic Ecological Monitoring to ensure land managers are being successful in improving the resources while remaining viable as a business.

With that background, I will encourage you to review the written material and resources provided that give further information on Savory Institute and what we are working to accomplish. In our limited time I want to get right to the crux of the matter.

To allow for reasonable debate and decisions on actions on grazing a clear understanding of the role of the grazing animal is needed.

Many times you'll hear a farmer or rancher say, "I wish it would rain, we need more water". This is true to allow for more plant growth. Just as important however, is the need for water for decay of the plant material to replenish the soil. Nutrients have to cycle from the land and back to the land for a healthy regenerating soil. Decay occurs by microorganisms and small insects eating and decomposing the old plant material. These microorganisms and small insects cannot live without water.

In an environment with regular humidity and rainfall, regardless of the amount of rainfall, as here in the mid-Atlantic region, plants that grow will decay back onto and into the ground, as the habitat including water for the microorganisms and insects exists. These microorganisms and insects eat the plants and cause them to decay biologically back into the ground thereby replenishing the soil.

Now comes the point that is not generally recognized or understood. In an environment with irregular humidity and rainfall regardless of the amount of rainfall, as on many of our western federal rangelands and private lands, plants that grow will remain standing for many years as there is limited water in the air or on the ground to allow for micro-organisms to live that would eat the plants and cause the plants to decay biologically back into the ground. These plants actually turn gray and oxidize or rust into the air, mining the soil by not returning to it, eventually dying, and creating more bare ground. This causes poorly functioning water and nutrient cycles, biodiversity loss and therefore desertification.

This variation in regularity of humidity and seasonal rainfall we refer to as brittleness on a continuum from non-brittle, having regular humidity and moisture, to brittle, having irregular humidity and moisture.

Now what does this have to do with grazing? The areas of the world that tend to have no or low humidity and seasonal rainfall dry out throughout the year and from year to year causing the microorganisms that would cause plants to decay to go dormant or die. Plant decay stops.

However, these areas had herds of large wildlife with their predators. A bison, elk, deer, antelope, cow, goat, or sheep can't digest plants any more than you or I. That's why these ruminants, as they are called, have a multi-chambered stomach with the first compartment being full of moisture and microorganisms year round. These microbes digest the plants the animals eat with the animal assisting by re-chewing the forage to help break it down. In other words, the ruminant whether wild or domesticated is a mobile, digestive vat moving about the land that breaks down plant material and returns it to the soil as dung or urine to replenish the soil. When this animal is removed from these brittle environments the natural system is broken.

Another way the natural system is broken is by removing the predator that kept the herding animals bunched and moving. This movement allowed grazed forages to recover by being able to re-grow their roots and leaves between grazings to grow and remain healthy. Herding or fencing replaces the predator. Additionally, the hooves aerate or break the soil surface as a gardener does their garden that has been sealed by rainfall to allow for water to enter versus run off thereby making the rainfall more effective. These hooves also trample the old plant material onto and into the ground.

When bison or cattle are on the land the manager is managing two tools involving living organisms – grazing and animal impact. When managed improperly these animals can be very destructive to the land. When managed properly these tools are extremely powerful for improving the effectiveness of the water cycle and nutrient cycle by capturing more sunlight, covering bare ground, and therefore increasing biodiversity and reversing desertification.

The Holistic Planned Grazing planning procedure developed by Allan Savory and used in Holistic Management allows the land manager to manage these tools of grazing and animal impact properly for regeneration of the natural resources both in brittle and non-brittle environments. Holistic Management addresses this need for timing of plant, animal, and soil relationships through Holistic Planned Grazing within the Holistic Context of the people involved.

As I would tell customers at farmers markets asking about my beef for sale, "regardless of whether one eats meat or not, wildlife and their predator or domesticated livestock being managed to mimic wildlife and their predator is required in these brittle areas for a healthy ecosystem, biodiversity, and water for us all to drink and improves the nonbrittle areas".

Other tools beside those related to living organisms we have available are technology in many forms, fire, and rest (no disturbance by grazing, animal impact, fire, or technology). These tools, however, need to be used knowing where on the brittleness scale the land involved lies as the probable results on the land of using a

tool are different depending on the degree of brittleness, the regularity of rainfall and humidity.

Management of livestock that is aware of the points I've discussed is seeing success. Management where livestock are not being used to mimic nature is seeing continuing degradation of land, loss of water and carbon holding capacity in the soil, more bare ground, and reduced biodiversity.

Savory Institute's work addresses food, water quality and quantity, soil health, soil carbon sequestration, wildlife and plant conservation, and climate change. We are seeing land managers increase their profits while building their biological capital by producing food and water on regenerating soils. Livestock, wildlife, plants, and human needs can be met simultaneously. Holistic Management is appealing to both conservative and liberal values. It's economically viable, can generate income and, at the same time, restore landscapes for wildlife species and the enjoyment of people.

Please refer to the written material, our website www.savory.global, and Allan Savory's TED talk for further information. I thank you for your time today. I'll try to answer any questions you may have when we get to that part of the hearing.

Thank you for allowing this panel to present proven conservation practices that are being used in the 21st century.

Resources:

What are Holistic Management and the Savory Institute?
http://savory.global/

Public Land Issues
http://www.rangemagazine.com/features/summer-15/range-su15-sr-cows_save_world.pdf

Allan Savory speaking specifically about Western Rangeland issues
https://www.youtube.com/watch?v=bjOaIK97OjA

Byron L. Shelton
Biographical Sketch
9-11-16

Byron is the Senior Program Director for the Savory Institute. The Savory Institute promotes large-scale restoration of the world's grasslands through holistic management. His role involves providing training and coordination of the worldwide network of Savory Institute Professional Educators and Field Professionals and providing consulting in holistic management on farms and ranches. Byron is a Savory Institute Professional Educator/Field Professional. He has worked in the United States, Canada, Europe, Asia, and Africa.

Byron is the founder and managing member of a company providing facilitation and training in whole farm planning using holistic management decision-making, financial planning, ecosystem processes management, planned grazing, ecological monitoring, land planning, policy analysis and development processes, and low stress animal handling in agricultural, natural resource, business, family, and community settings. He has worked with large and small beef and dairy operations as well as with a wide range of other livestock and crop enterprises across the US and in Europe.

Byron is the founder and managing member of a company producing and marketing primarily 100% grass-fed and grass-finished, land-improving, beyond-organic beef. He has managed organic and non-organic ranches and farms in Colorado, New Mexico, and Virginia. Grass-based enterprises managed include cattle, veal, bison, sheep, hog, broiler, layer, and turkey. Other enterprises managed include orchard, market garden, draft show horse, hay, guest ranch, and adventure youth/family camp enterprises.

Byron has served as a founding Board Member of the Central Colorado Food Shed Alliance, Faculty Innovator Coordinator in Instructional Technology for Colorado Mountain College, Adjunct Instructor of Agriculture/Natural Resource Economics at Colorado Mountain College, Career/job Skills Instructor for the Colorado Correctional Alternative Program, President and Board Member of the Colorado Branch of Holistic Management, Independent Construction Contractor, Camp/Guest Ranch Director, and as a High School Vocational Agriculture Instructor and FFA and Young Farmer Advisor in Colorado.

Committee on Oversight and Government Reform
Witness Disclosure Requirement – "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

Name: Byron Shelton

1. Please list any federal grants or contracts (including subgrants or subcontracts) you have received since October 1, 2012. Include the source and amount of each grant or contract.

None

2. Please list any entity you are testifying on behalf of and briefly describe your relationship with these entities.

Savory Institute – Senior Program Director

3. Please list any federal grants or contracts (including subgrants or subcontracts) received since October 1, 2012, by the entity(ies) you listed above. Include the source and amount of each grant or contract.

None that I am aware of

I certify that the above information is true and correct.

Signature: Byron L Shelton

Date: 9-11-16