

**SONORAN DESERT CONSERVATION PLAN
STEERING COMMITTEE**

EDUCATION SESSION

**August 14, 1999 (9:00 a.m - 12:30 p.m.)
Arizona-Sonora Desert Museum (Gallery)
2021 N. Kinney Road / Tucson, Arizona, 85743**

RANCHING WITHIN PIMA COUNTY

**Ranch Tradition and Conservation
on the Santa Rita Experimental Range
Andrew McGibbon**

INTRODUCTION: SHARON BRONSON

We are running into somewhat of a time crunch so we will move right along. I want to say that we were really privileged the County Administrator and myself. We were out at Empire-Cienega last January with the Secretary of the Interior and there is a ranch that is in excellent condition and we want to thank you for the terrific tour. I knew I cannot get away with misspeaking at least once in a session and I did a little bit ago when I referred to Drew McGibbon as Andy, my apologies sir.

It is my distinct pleasure to introduce him now, he is the current Vice President and manager of the Santa Rita Ranches which operates in cooperation with the Santa Rita Experimental Range located to the west of the Santa Rita Mountains, in the upper Santa Cruz Valley. It was established in 1903 and the Experimental Range is recognized as a principal site for research on the improvement and management of semiarid grasslands in the Southwest.

Mr. McGibbon is currently working toward his Master of Science degree in Animal Science at the University of Arizona and holds undergraduate and minor degrees in Animal and Veterinary Science, International Agriculture, Agricultural Biochemistry, and Range Management and Ecology. He is active in the Arizona Common Ground Roundtable, National Cattlemen's Association, Arizona Cattle Growers Association, Southern Arizona Cattlemen's Protective Association and the Center for Holistic Resource Management. Please welcome Andrew McGibbon.

RANCH TRADITION AND CONSERVATION ON THE SANTA RITA EXPERIMENTAL RANGE: ANDREW MCGIBBON

Thanks for having me here this morning. You have heard from some of the finest people in the industry so I am going to try to keep this short and to the point.

What I have to offer you this morning is I am going to give you a general overview of a ranch in Southern Arizona, that happens to be ours. We have several management plans as you will see and I think it is fairly accurate to say that a majority of the ranches are here to stay in Southern Arizona under the intense management that you will see on some of our sites.

Ranching on the Santa Rita Experimental Ranch: how many of you have driven through the Experimental Range south of Tucson? Probably quite a few of you and some of you have probably driven through there and did not even know you were driving through there. It is just outside of Green Valley. If you drive up the road towards Madera Canyon, every inch that you drive through is the Santa Rita Experimental Range.

This is just a brief overview: As Sue Chilton mentioned previously, she talked about forest reserves and originally, the Experimental Range was a forest preserve, it was established by presidential order on April 11, 1902, but experiments had already begun by 1901. By experiments, I mean any kind of range scientists and I will show you a little later what types of experiments are occurring there. The forest service was formed in 1905 and in 1988, it went out of the hands of the forest service overlooking the entire operation and into the hands of the University of Arizona College of Agriculture. Now the Experimental Range goes from many different elevations. The next three pictures are just kind of a general overview of the different elevations that we have there.

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This is roughly 3,000 feet, I believe it starts at 2,900 feet and you will see that there is a lot of Lehmann's lovegrass which is an introduced grass and you will see a lot of mesquite. You will see in the next pictures that a lot of the land is rather similar.

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This is roughly 3,500 to 4,000 feet. There are large stands of Lehmann's lovegrass with mesquite. I will tell you a little bit more about the grasses in a moment.

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This is probably the higher country, this is about 4,200 feet roughly, it goes a little bit higher than this, but this is stands of Lehmann's lovegrass again. These pictures were taken about a week ago and after July, according to the range records, right on average. They were slightly above average, about a quarter inch above average.

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Now, on the Santa Rita Experimental Range, one of the main uses of the range are for grazing systems, to find out what works, what does not work, what the best route to take is and some of these systems of our renewable natural resource grazing systems is year round.

Can anybody think, why would they want to use year round systems?

Most people realize that year round is not your most beneficial grazing system, period.

But, how can we know for sure that these are the best routes to take, the one's below that if we do not have something to compare it with?

Our second would be best use: simply based on monitoring. We ride the pasture and determine when the grasses need a rest. The third, which I will draw a little picture up here in a little bit is called the savory system and its rotation around central water. The fourth is the Santa Rita system which are three nine-month and a year rest of three pasture system. I know this is confusing, I will go over here in a minute, and it involves a lot of intense management.

I am going to go through savory system just real generally. Think of it as a wagon wheel or pie. Obviously the land is not shaped like this but we have one central water for what used to be three or four, possibly five even grazing systems. What we have in the center is the one water that the cattle are moved around very frequently, seven to eleven days in many instances and we have two of these systems in use. The Santa Rita system was developed by two professors at the U of A.

What that is, is a three pasture system roughly for three and nine month grazing intervals so your first pasture will be grazed for three months. Your second pasture, at the end of the three months, will be moved into the second pasture for a nine-month period, but during this rotation, this pasture here has had an entire year of rest, not a single cow on that pasture and it rotates through that schedule with a little bit of variation but sometimes you change the months to adapt to different conditions such as drought or fire. That is kind of the basis of the Santa Rita system.

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This is our year round pasture and in the pictures you will see today, it is probably not one of our best pastures, I will be the first to say this, "It is not our best pasture," and the year round system just plain and simple, does not work. At least it does not work in Southern Arizona, in my opinion.

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This would be best use, this is our pasture three which is the best use management system which simply says, well look, we examined the pasture, looked around and see if it was time to move these cows? You base the move obviously around growing seasons.

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This is a little bit hard to see, but on the left you will see some electric fence. The interior fences on this wagon wheel system are usually electric fence powered by solar panels.

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This would be the Santa Rita System, this is about seven months into a nine month grazing season. The cows will be moved out of here in roughly forty-five days.

Now, in addition to grazing, the Santa Rita Experimental Range does multiple research. You will see that obviously grazing, the benefits of what works and what does not, the nutrition of the grasses, hydrology. There is a lady out there right now from the University of California working on a cottontop, soil sciences, and there are guys out there with funny hoods on working on the Hanta virus, bacteriology, vertebrates, wildlife management, tree ring research that shows the behavior from fire, drought and flood, animal behavior, the general health of anything from human health to animal health, noxious weed control and general research management.

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This is an example of one of our rain gauges, there are over thirty rain gauges over the Experimental Range for every month and at the end of the month, rain data is gauged. It hard to see this sheet, it is just a standard sheet but this is just one range gauge and they have constant rain data on this particular gauge from 1918. So every month, for every year since 1918, we know exactly how much rain fell on this pasture at that site right there. Some of them are variable and some of these, unfortunately, we have people who like to drive through that rain gauge with a four-wheel drive at 60 mph, it is a little difficult to obtain your rain data after that.

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This is just a top view of the gauge.

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Now what we have here, this particular station is a desert grasslands station. Scattered throughout the Experimental Range there are plots of land, multiple, many, many plots of land that have been fenced off starting roughly around World War I and what they have done is, this is not grazed. This has not been grazed, except for an occasional fence down when a heifer might run in there, but in general, that area inside that fence there has never been grazed, at least in my lifetime and a lot of our lifetime here. So that is very important because it shows right across the street or right across the fence, the affects of what you can achieve by grazing that same plot of land.

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Now I have a quiz for you. Which side of the fence is grazed and what system is used?

Right side is grazed? Wrong. It has not been grazed since shortly after World War I. The left side is part of the Santa Rita Rotation System.

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Okay, I have a couple of old photos here, I apologize if they are a little hard to see but this is our Pasture 12A in 1948. As you can see, I am not terribly proud of what you see here, it is nothing to write home about. I took a picture about a week ago after a very average season, slightly above average for our rain records, that is 12A. As you can see, there is a little bit of encroachment of mesquite and that is one of the problems that I hope to address here over the next few years is mesquite.

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Another picture here taken in 1960, Pasture 12B. You can see Elephant Head to the left and the mountains to the right are just behind I believe it is Rio Rico if I am not mistaken.

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This is the same pasture as you can see the same mountains there on the left so it is rotated slightly to the right, but it is the same area, same pasture and again, Lehmann's lovegrass. This was introduced I believe, correct me if I am wrong Dr. McClaran, in the 1930's by range scientists and you might think, well gee, this is fairly homogenous, there is nothing but Lehmann's lovegrass. Well, I have four pages here of native grasses that still exist in numerous areas of the Santa Rita Experimental Range and I will tell you later about our website where you can access all this data. Anything I say here today, you are more than welcome to access on the website, it will tell you anything you want to know about the range.

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This is that same pasture. Ohmigosh, look at what the cattle have done! This is horrible, look at this! What kind of grazing system is this?

Audience: None.

Exactly, none, zero, diddly squat. No cattle on here since World War I. Now I am not trying to tell you that the reason that there is grass in the pasture next door is simply because of a cow but I am trying to show you what can be done with intense management. Unfortunately, when someone drives up the road and they look at this, they are going to say, "My gosh, look at what those cows have done!" That is what they take home with them is a picture like this, yet they have no idea that cattle have never set foot on this piece of land except for jumping a fence every once in awhile.

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Okay, what does this picture show? Well, just a little sign. What does it signify? Well, it is only one-half of what was once there. We have vandals that come on the land on a regular basis. That was taken away with a shotgun, they decided it would be a nice target.

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This, I apologize, it is a little hard to see but at the bottom of the wash are the remains of thirty-six bottles of beer. Someone decided this was a good place to go shooting. I found this just a few days ago, this was done last weekend some time so if you take thirty-six bottles of beer and a 22 rifle, there is quite a mess and who cleans that up? We do.

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Look at this, wow! The Santa Rita Experimental Range is now a garbage dump, this is next to the main road. People have decided, "Well, I am just going to dump my garbage out here. Well heck, there is 53,000 acres out there, it does not make any difference." Who cleans that up? We do.

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This is some of our supplementation, this is a trace mineral block that is used as much, if not more, by wildlife than it is by the cattle. It has a lot of trace minerals like copper, zinc, magnesium, etc.

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What I have here is a watering hole. Is this natural? No, there is no riparian area on the Santa Rita Experimental Range, this is built by the people who owned the ranch prior to us and this is a good example of watering holes that have been made by the ranchers themselves. Keep in mind that there is no riparian area on the Santa Rita Experimental Range without the rancher forming these waters, where do they get their water? Think about that.

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Just a couple of more pictures. That is the end of a wash where we have had a little water gathering there that is about one week ago.

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This is the same picture, a little blurry.

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As you can see, the watering holes themselves were not much more than simple grass environment. By bringing the water into that area, simply by bringing out a dozer and stopping runoff, you form some very nice environments, a very nice ecosystem.

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Okay, this is our board of directors.

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I put this picture in simply because I think it is very important that everybody in this room realize that behind these ranches is a family that works their tail off to do whatever they can to improve the range.

In closing, first of all I would like to thank you for letting me speak today and I would just like to invite each and every one of you out to the Experimental Range anytime you would like, just stay on the main roads obviously, we would not want any tracks out there but come out and look and see what the ranchers can accomplish these days.

There is our website there, please visit it at anytime.

<http://ag.arizona.edu/SRER>