

Range Science - It's Where It's All At

The FFA Creed, a model for 10.7 percent of high school students (according to the National Center for Education Statistics) and agriculture education, opens by saying “I believe in the future of agriculture,” something that I had heard a thousand times from all of my friends and teachers. “I believe in the future of agriculture”. “I”, a singular person. “Believe”, trusting something will live up to its expectations. “Future”, a time period following the moment. “Agriculture”, our national heritage, which we must protect for the future. “Natural resources”, materials or substances found in nature used for economic gain. “Education”, giving and receiving systematic instruction. “I, personally, believe in the future of agriculture; natural resources education.” Prior to my first trip to the Nevada Youth Range Camp I didn’t know that the rangelands, which make up most of our great state, were at the center of local, national, and international disputes.

My first time attending range camp was easily one of the best weeks of my life. I have an older brother who had attended three years before me. Now, as typical of a brother-sister relationship - we didn’t talk much about what he learned and how the camp was, or anything pertaining to the camp. Don’t get me wrong, I absolutely love my brother, but I kind of didn’t like him because he didn’t tell me to expect the best week of my life. A week where I would find my passion. People from all over the state gathered together to talk and learn about this thing that we all had an interest in; rangeland and natural resources. I absolutely loved every second of it.

During this week of complete greatness, I found myself asking questions about sagebrush and pinion-juniper ecosystems, stream functionality, and so much more that I had never even considered asking questions about. All around me were great educators and leader’s proficient in their individual fields working collaboratively to give us the best education and tools there is to offer. My mind was bursting at the seams and I, too, began to believe in the future of agriculture.

After that week I knew that *range science is where it's all at*. I had already decided that teaching is what I wanted to do with the rest of my life and is what I want major in at college; how awesome would it be if I could take the newly found subject that over a week I had come to love, and combine this with the pre-existing love that I had for teaching. As I continued to grow an interest in both teaching and rangeland resources, I first discovered that in the public school system there are many limits and high desires placed upon the natural resources department of agriculture curriculum. Secondly, I discovered there was a lack of collaboration between educators and those leaders proficient in their individual fields of agriculture and natural resources. Moreover, I saw more focus on the environmental dysfunction rather than the systematic knowledge of causation and possible solution to the environmental dysfunction.

As we all know, range science is a rapidly evolving field of science. As the science evolves, so too should the range science curriculum. Due to the extreme time lag between advances in rangeland science and their inclusion in the range science curriculum at the high school level, there is a disconnect between keeping our high school youth informed about the always changing ecology of the land on which we live and depend, and the recent advance in range science. But as I learned from some of the best, a solid curriculum can remain current through the collaboration of educators and professionals in rangeland sciences. This is what is needed to close the gap in advances in rangeland science and high school rangeland curriculum; which is presumably the goal at hand. "Educators in public school systems are generally not well versed in natural resources," and "management, or in many of the natural sciences." Christopher A. Call continues in his article that "many secondary teachers of science did not meet reasonable standards of preparation." This is one of the limitations placed upon the school rangeland and agriculture curriculum. Without investing in our educators to improve their knowledge of range science, presumably through more contact with range science professionals, how can we expect our students to prosper and grow within a subject area as imperative as this?

Our future and our students are missing out on the general knowledge in rangeland sciences, and therefore, students are not following a very logical career path; one that is critical to keep America American. The range is needed to allow American's to continue living as we do. Our food, recreation, and many ecological functions, and so much more comes from the range. With that, there will most likely always be jobs in the fields of rangeland science due to the constant evolution of the field and the need to apply this new information to the landscape, albeit range management, pinion-juniper studies, quail management, and, oh, so much more. But we need graduates who are well educated, and that all starts with the educators. But our students today would be walking into a career blindly. In a study conducted by Beiswenger, it was found that the majority of 450 Wyoming educators had an inadequate of knowledge of several water resources issues. This is just one example of one issue facing one state. What are the knowledge gaps for other educators in the other states? "All teachers should be well informed" (Christopher A. Call pg. 273)

But how can our educators stay informed? I believe it all starts by asking the simplest of questions; what is range? How does it help us? How can we help it? But where does the information needed to answer these questions come from? Through events such as this, collaborative workshops, in-service events, group meeting, and of course my beloved range camp. As we all know there are intricate sets of issues facing every state regarding the land, and this is where the collaboration with LOCAL professionals comes into play. They have studied their particular land can help educators devise a curriculum or education system to educate high school youth about what it takes to nurture nature.

Even more than before, I have become aware of a pattern. The pattern that I had observed was the lack of an effective rangeland science curriculum which could lead to positions being filled by under-educated graduates, as mentioned in a November 2012 article of Range Ecology Management "Growing public concern over maintaining healthy rangelands and the ecological services they provide ensures a need for rangeland graduates." The article goes on to say that "If the potential shortage of

well-trained range graduates is not met, a significant number of range management positions may be filled by individuals with inadequate knowledge and skills to properly manage rangelands” (Heady 1999; McClaran 2000). This curriculum could be easily formed a number of ways, but my favorite is the collaboration of rangeland professionals and educators at the high school and colligate levels. Not only have I seen the benefits of this edification in myself, but I have had the honor of watching my friends also fall in love with the beauty of the range. Fundamentally, without the proper education of high school and college students the future of rangelands could be looking dim. Now, I may be just one girl believing and striving for the future of rangeland resources, but the rangelands hold our future.

In *The Report of the Ecological Society of America Committee on the Scientific Basis for Ecosystem Management*, while defining ecosystem management, it mentions that “Ecosystem management encompasses sustainability, goals, sound ecological models and understanding.” So, fast forward a few months, I found myself sitting in an agriculture classroom wondering when we were going to get to rangeland science and natural resources. Where I was prepared to hear those wonderfully beautiful words like goals, sustainability, and models, and *the definition of ecosystem management*. In this agriculture classroom, those words that spoke to me never came. Instead we were bombarded with “the issues” cheat grass overpopulation, grazing permits, uncontrollable wildfires.... But never what caused these issues or ever a possible solution. This is an issue to our community, our state, and our nation.

When I spoke with active high school student Letty Vega, my best friend, and asked her to candidly tell me what she has learned about the rangelands through her three agriculture classes in the past. She simply replied, “I could tell you the issues, but you already know those, everyone does.” As we continued talking about the range it was soon apparent that she was very well versed in the issues, but that was ultimately the extent of her knowledge of the subject. I asked her why she believed these issues occurred and she gave a rational answer, as anyone would, but nothing compared to the analysis

that one might expect from a three year agriculture student, especially with local, national, and international prosperity depending on the future of youth rangeland science education. The fact that today's agriculture students hadn't the briefest introduction to the rangelands, just the issues, was an issue itself.

Throughout the best, most amazing, week of my life I grew a passion that developed into a love. This love allowed my knowledge to burst, and with an issue as imperative as this with local, national, and international prosperity depending upon the education of today's high school youth. If there is even a glimmer of light in the direction of abolishing the limits placed on educators in high school agricultural and natural resources programs, it will be by linking the communications between range science professionals and educators. Why wouldn't we pursue such an advancement? Lastly, through our educators we should have a well-focused arsenal of resources to educate about the causation of environmental dysfunction rather than the mere presentation of the issues. At the heart of it all, agriculture is my passion.

I believe in my own ability to work efficiently. I believe in natural resources. I believe in education. I believe in my fellow classmates, and generations to follow. I believe in the future of agriculture. By teaching, learning, and becoming aware of these issues, as well as taking actions in order to solve them, we can grow the same love and passion within other students.

I believe agriculture is where it's all at!

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