

Rangeland Health is a term that can have different meanings for different people. For example, if you are a big game hunter, you may look at healthy rangeland as a unit of land that has a lot of shrubs for wintering mule deer where as if you are a livestock producer, you may look at that same piece of land and see healthy land when it has more grass and palatable forage for livestock. So, I think it's important that we understand how these perceptions can differ, but also come to a common agreement on the term Rangeland Health. So, let's look at and define what Rangeland Health is. This particular instance, you have some individuals out assessing a piece of ground; I'm sure with some different perceptions. What we've chosen to do and Interpreting Indicators of Rangeland Health is applying Rangeland Health from an ecological, not from a view spaces and we are looking at the 3 of which the integrity of the soil, vegetation, water and air, as well as the ecological process; nutrient cycle, water cycle, energy flow are sustained and balanced on this unit of land. We do not define Rangeland Health or we do not assess Rangeland Health as just 1 category since the land is either healthy or unhealthy. We have three attributes of Rangeland Health, as well as site stability, ideologic function and biotic integrity that we assign the values to in terms of rating or rank in Rangeland Health. We'll talk a lot more about this in some subsequent presentations. Moving on, what I'd like to do now is just to give you kind of a brief overview on the development of Interpreting Indicators of Rangeland Health process and then also go into some terminology that we need to have a common understanding of as we go through the assessment methodology that we will be describing. Land health is not a new concept, if we

can go back to the nineteen forties, although, Leopold does define land health as self renewal in the biota. He also identified some indicators, some of which we still use today in terms of evaluating whether land is healthy or not. As we move forward to 1994, a publication by the National Research Council defines Rangeland Health kind of set the stage for the protocol that we are using today. In this publication, the author has evaluated all the different protocols being used. He came up with a recommendation that we need to make some improvements in how we look at rangeland and how we assess rangeland and they actually developed a Matrix to assess Rangeland Health and that kind of serves as a basis from which we move forward in this process on Interpreting Indicators of Rangeland Health. We've had several versions before version three. We are in a kind of continuous mode of improving this protocol. Version three is significant because four agencies came together and helped to develop the protocol and not only develop it, but, we also had a pure review of this document which is kind of unique for a technical reference. So, version three kind of sets the stage, kind of the state-of-the-art for the time. We move forward now to 2005 when we've come up with a current version, version four which we will be describing in the remaining of our training here in this effort, but, again, four agencies involved, we've modified some of the protocols from version three and previous versions continually improving the process and again, this version also went through a pure review process, so, we feel that really strengthens its acceptance and utility in rangeland assessment. So, let's move on to some terminology. I'd like to go through some definitions of inventory, monitoring and assessment. Often, we

see these terms used kind of interchangeably and we feel it's very important that there are some clear distinctions between these three terms in terms of how we look at Interpreting Indicators of Rangeland Health. So, the first step in inventory is the systematic acquisition and analysis of resource information over a large area, a landscape area and typically, this kind of information is not collected at frequent intervals, that's why we have monitoring that we will talk about in a minute, so, this is not a good way to monitor trend that I think is kind of the take on this because of the expense and the large landscapes involved. If we move on to monitoring which is probably something that many of you may be a little bit more familiar with, this is the orderly and quantitative collection of data and I think this is an important distinction from what I'll talk about in a minute on assessment. In this case, we use monitoring data primarily to look at trend, or, are we making progress towards meeting management resource objectives. We have a little example here in this table on percent cover if we look at bare ground and light plant canopy cover over a tree sampling period over three decades at a time frame, we can see that bare ground is gradually increasing over this period where as our light plant canopy cover is gradually decreasing and so, an assumption we could make from this data is that we are in a downward trend based on these two attributes. So, again, that's monitoring. The next term is assessment and this is a process of estimating and judging the value or functional status of ecological process, basically, Rangeland Health. I think the key thing here is this is a moment and time kind of a snapshot of the conditions at that time when you are in the field and it hasn't been designed to repeat it in

the future, that's the reason we have the monitoring studies that we just discussed and so, assessment is what we are doing in Interpreting Indicators of Rangeland Health and if we look at a couple of more terms, the difference between quantitative and qualitative studies, I think is also important as we talk about the assessments that we are going to describe. A quantitative data is objective; it's a process for major attributes. In this example, a line point transect is being run for cover and we can quantify the cheap grass cover is 85%. If we look at qualitative, it's based on observation and this process we are either describing or rating these same attributes whereas before, we had a quantitative major, now; we are rating cheap grass as abundant. Interpreting Indicators of Rangeland Health is primarily focused on qualitative looking at 17 indicators of the qualitative assessment. We do have some quantitative linkages for these indicators that will be discussed in one of the subsequent modules. Now, that we have kind of went through the terminology and the introduction to Rangeland Health, what I would like to do now is talk about the topics that we are gonna to go through in the rest of this training. I just introduced you to Rangeland Health, we are going to follow that for the module on ecological sites, a transition model, description of the 17 indicators, I will talk about the quantitative method that I just described how we can actually major some of the attributes of Rangeland Health. We have three sections on the reference sheet, this is a very important component, it kind of benchmark or baseline from which we do our assessment, we will spend a little bit of time on that, we will go into the evaluation Matrix as this is how we rate the 17 indicators, the tools that we use to do that and then

finally kind of lead you through the five step process on applying the technique. Now, that we've went through this kind of introduction and the topic, what we do is encourage you to do is to go through all of the modules the first time and then go back at a later date at your own convenience, click into any of these modules and learn more about a particular topic at that time. Now, that we've kind of introduced you to this topic, let's get on