1. Howdy and welcome back to Wildlife Habitat Management. In this module, we will be discussing habitat, what it is and the many terms and definitions associated with habitat. We will also look at the hierarchical order of habitat selection and discuss how habitat is species specific. The goal of this module is to better understand what we mean by the term habitat.

2. As you read journal articles and other wildlife related publications, you will come across several terms that deal directly with habitat such as use, availability, suitability, preference, selection, and several others. Unfortunately, many of these terms are often interchange or quite frankly used incorrectly. So let’s take a look at some of the terms and definitions dealing with habitat.

3. First of all, let’s define habitat. Habitat simply is food, water, and cover arranged spatially so that an organism can use it. Habitat implies much more than vegetation or vegetation structure, it is the resources and conditions present in an area that produce occupancy, including survival and reproduction. Habitat is the sum of the specific resources that are needed by an organism.

4. Throughout the literature and our conversational speaking we often use and hear the term habitat type. I will admit that I have used this term in describing habitat but this is a term that we should remove from our lexicon. Habitat type is often used to describe the vegetation that a particular species uses. Again habitat is more than the vegetation or its structure. Avoid using the term habitat type and replace it with vegetation type or vegetation association which is more correct.

5. Habitat use is the way an animal uses or consumes a collection of physical and biological components. Habitat can be used for foraging, cover, nesting, escape, denning or other life-history traits. Species like elk or mule deer may use 1 habitat in the summer and another habitat in the winter.

6. Habitat selection is a hierarchical process involving a series of innate and learned behavioral decisions made by an animal about what habitat it would use at different scales of the environment. Habitat is selected for numerous reasons however, survival and reproductive success are the ultimate drivers for a species habitat selection.

7. Habitat preference is the disproportional use of some resources over others. Habitat preferences are most striking when animals spend a high proportion of time in habitats that are low in abundance across the landscape. This image shows 4 consecutive days of an individual Rio Grande wild turkey with a GPS backpack. Based on this bird’s daily travel you can get a pretty good idea what habitat it prefers. The green areas are riparian corridors and this bird tended to stay in or around those corridors.

8. Habitat availability refers to the accessibility and procurability of physical and biological components of a habitat by animals. It sounds easy to look at an aerial map and delineate different habitats that are available but just because it is on a map does not mean that it is available. For example, a white-tailed deer standing on its hind legs may be able to reach up 6 feet but if a preferred forage is greater than 6 feet tall it is not available to that animal.

9. Habitat quality refers to the ability of the environment to provide conditions appropriate for individual and population persistence. Quality is a continuous variable ranging from low to high and should be based on survival, reproduction and population persistence. A common mistake many often make is equating high densities of a species with high
quality habitat but density can be misleading. A high density of animals may use a low quality area simply because a higher quality habitat does not exist within their range.

10. Critical habitat is often a legal term describing the physical or biological features essential to the conservation of a species which may require special management considerations or protection. Critical habitat is typically associated with threatened and endangered species or species approaching T&E status. The definition should also include something about habitat quality and particularly the survival, reproduction, and population persistence of a species.

11. Two terms that we often hear are macro and microhabitat. Macrohabitat refers to features on a landscape scale whereas microhabitat refers to fine scale habitat features such as vegetation height or canopy cover.

12. Habitat selection by wildlife is often viewed as a hierarchical process. In 1980, Johnson wrote a seminal paper on habitat selection. In it he defined four orders of selection with the first order being the physical or geographic range of the species. Second order is the home range of the species. The third and fourth orders are at increasingly finer scales such as foraging areas and forage species, respectively.

13. Let’s look at an example using the red-cockaded woodpecker. Their geographic range is throughout the southeast U.S. The next image is of Sam Houston National Forest where several colonies of woodpeckers live and this forest would encompass several different home ranges. The next image is of a particular pine forest area often used by woodpeckers for foraging. And finally, the fourth order of selection might be the particular tree used for nesting.

14. As a wildlife biologist, I can’t tell you how often I hear people say they have excellent wildlife habitat. And I always think to myself “for what species?” Always remember that habitat is species specific and good habitat for one species may be poor habitat for another. That is not to say that 2 or more species can’t use and prefer the same habitat. My point is habitat is specific and as habitat managers we should consider a species survival and reproductive requirements in our management decisions.

15. This concludes our lesson on habitat. Hopefully you have a better understanding of what habitat is and some of the terms and definitions. Remember that habitat is species specific and always consider a species requirements prior to making management decisions.